



**INLAND TRANSPORT AND COMMUNICATION  
IN MEDIEVAL INDIA**

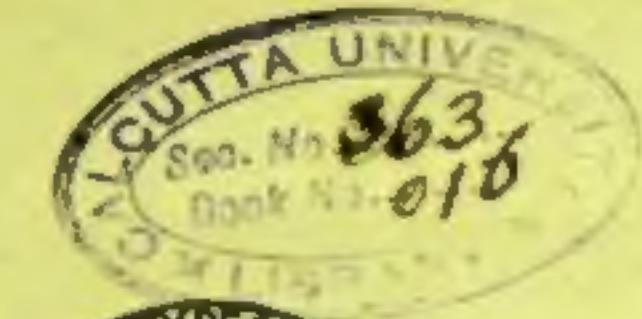


# INLAND TRANSPORT AND COMMUNICATION

## IN MEDIÆVAL INDIA

BY

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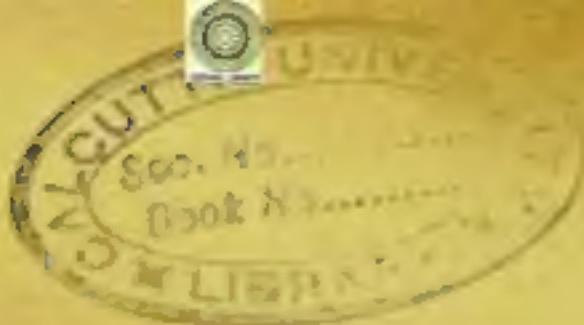


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## PREFACE

It is the object of this short monograph to study the methods of inland transport and communication in Medieval India, roughly from the 11th to the 18th century A.D.

The work is mainly a reprint of several papers that have been already published by the author. Considerable additions have however been made in different parts of the book. So far as is known to the author, there is no connected and systematic account of this important subject. In fact, many of the interesting phases of the subject have hardly ever been adequately treated by any previous writer.

In the preparation of the work, the chronicles of Muhammadan historians and the accounts of foreign travellers have been the author's principal sources of information. Some valuable materials have also been found in the *Sukraniti*. Various other works have also been laid under contribution for elucidating certain aspects of the subject. References to authorities cited have in all cases been given in the footnotes.

Thanks of the author are due to the editor, the Calcutta Review, the committee of the University of Calcutta on Sir Asutosh Mookerjee Silver Jubilee Volumes, and the authorities of the University of Calcutta for permitting him to use his contributions, published by them, in the preparation of this work.

AUTHOR.



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## INTRODUCTORY

The railroad and the steamship have of late greatly abridged the enormous distances between the different parts of the world, and have made possible the cheap, easy, and quick transmission of goods and intelligence from one part to the other. London—and even New York—may probably be sooner reached from Calcutta now than Benares in the pre-railroad epoch. The facilities of modern transport and communication are so great and have become so indispensable that one could not be rightly blamed if one should think that the distant parts of such a vast country as India—not to speak of the whole world—were entirely isolated, having little or no intercourse with one another, either in the material or in the cultural arts of life, before the era of the steamship and the railway. But it is now a commonplace of history that, from time immemorial, India carried on a continuous and extensive commercial (and even colonial) intercourse with China and Japan on one side, and Western Asia, Africa, and Europe on the other. In order to send out vessels fully laden with cargoes, the celebrated ports of ancient and mediaeval India had necessarily to depend chiefly on inland stations for valuable merchandise; and it would not be wrong to suppose that the facilities of internal transport and communication must, therefore, have been, at least, as adequate—according to the prevailing notions and practices of those times—as to give vent to a continuous stream of goods from the important centres of trade and industry to the sea-port towns and keep up that flourishing



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state of international traffic, which was at once a source of immense wealth to her, and an object of wonder to the outside world. In the discussion that follows, it will be seen that this is not a mere supposition, but is based on a proper analysis of the facts of the mediaeval Indian economic life.

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# Inland Transport and Communication

## CHAPTER I

### WATER TRANSPORT

A superficial view of the physical features of India would show that the country is covered with a network of natural waterways, free from the freezing effects of a severely cold climate, which make them unsuited to navigation in many other parts of the world for a considerable period of the year. The extensive plains of Northern India are blessed with three principal river systems—those of the Indus, the Ganges and the Brahmaputra, with their numerous branches and tributaries,—which make waterway communication possible over large tracts of the country during all seasons of the year. There is also a large number of rivers, the Godavari, the Krishna, the Cavery, the Nerbudda and the Tapti in Southern India, which are also navigable, though to a lesser degree and over considerably smaller areas, running as they do over rocks and valleys. These river systems, besides fertilising the soil over which they pass, have been the natural highways of commerce and colonisation from antiquity. It was along the Indus and the Gangetic valleys that the first Aryan settlers in India colonised Northern India, and disseminated their culture and civilisation; and it was along these same river banks that the great and wealthy cities of old flourished—cities like Kasi, Prayag, Pataliputra and others. From time immemorial, the rivers have indeed been one of the most important channels of inland trade and communication, in India as elsewhere, because of the advantages of easy

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and cheap transport. Even in the modern age, when the railroad intersects all parts of the land, the rivers carry not an inconsiderable volume of traffic in both the country boats and the steamships. It is the object of this chapter briefly to enquire into the system of river transport and communication in Mediaeval India, roughly from the 11th to the 18th century A. D.

We begin with the Punjab, where we have the first important notice of water communication during the period under review in the description of the famous river battle at Multan between Sultan Mahmud and the Jats. According to the *Tabakat-i-Akbari* of Nizamuddin Ahmed, the last expedition of Sultan Mahmud was directed against the Jats of the Salt-Ranges, who had molested his army on its march from Somnath (1025 A. D.). It is stated that when Mahmud reached Multan, he "ordered 1,400 boats to be built, each of which was armed with three firm iron spikes, projecting one from the prow and two from the sides, so that everything which came in contact with them would infallibly be destroyed." With this fleet of boats Mahmud attacked the Jats, who, having intelligence of the enemy's arrangement, sent their families into the islands, and launched, according to some, 4,000 boats, and according to others, 8,000 boats, manned and armed, ready to engage the Muhammadans, and completely routed them.<sup>1</sup> Doubts have been expressed by some critics regarding the truth of the large number of boats that took part in this naval action. They find it difficult to believe that it could be possible for the Jats to collect such a huge flotilla of boats in so short a time as soon as they received intelligence of Mahmud's intentions. It would not however appear incredible and excite astonishment when we consider the very extensive scale of commercial operations on the rivers of the Punjab,

<sup>1</sup> Elliot, *History of India*, Vol. II, p. 478.



## WATER TRANSPORT

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which, even three centuries before the beginning of the Christian era, enabled Nearchus to perform his famous voyage down the Indus to the Persian Gulf, in a fleet of nearly 2,000 vessels collected from the Punjab waters.<sup>1</sup> We also learn from the *Aia-i-Akbari* that the principal means of locomotion in the Punjab was still by boats, the inhabitants of the Circar of Thatta alone (in Sindh) having no less than 40,000 vessels of various construction.<sup>2</sup>

In the latter part of the fourteenth century (A. D. 1372), Firoz Shah Tughlak led an expedition against Thatta, in which he is said to have collected and used a fleet of as many as 5,000 boats in which his army descended the River Indus and in a few days reached Thatta.<sup>3</sup> The numerous hordes of Pathan and Mongol invaders from the time of Sultan Mahmud, who led his first Indian expedition against Jaipal in 1001 A. D., to that of Babar (1526-30), who appeared in India through the North-Western passes, had to depend almost entirely on ferries or bridges of boats to cross the mighty rivers of the Punjab, which goes to indicate that there must have been a considerable amount of river traffic in the Land of the Five Waters.

Coming to the time of Akbar, we have more adequate and interesting information regarding inland water transport in the various parts of the Empire. According to Abul Fazl, during Akbar's reign was organised, on an efficient basis, the "Office of Meer Bebry," or Admiralty, which had four principal objects in view:—(1) *First*.—The building of ships and boats for inland navigation. Vessels were built of various sizes and construction and for various purposes.

<sup>1</sup> Vincent, *The Commerce and Navigation of the Ancients in the Indian Ocean*, Vol. I, p. 12; Robertson, *An Historical Disquisition concerning Ancient India* (Calcutta, 1890), p. 14.

<sup>2</sup> *Ain (Jarrett's translation)*, Vol. II, p. 398.

<sup>3</sup> *Tarikh-i-Firoz Shahi*, Elbost, Vol. III, pp. 321-22.

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There were those built for the transport of elephants, and those of such construction as to be employed in sieges, while others were made convenient for the conveyance of merchandise. The Emperor had also pleasure-boats built with convenient apartments, and others on which there were floating-markets and flower-gardens. While on this point, Abul Fazl observes "Every part of the Empire abounds in boats; but in Bengal, Cashmeer, and Tattu, they are the centre upon which all commerce moves". (2) *Secondly*—To look to the supply of men, of experienced sailors, who were versed in the nature of tides, knew the depths of channels, the coasts to be avoided, and the character of the prevailing winds, and were skilful swimmers, and were capable of undergoing fatigue and hardships. (3) *Thirdly*—To watch the rivers for which an active and resolute man was appointed, who settled everything relative to the ferries, regulated the tonnage, and provided travellers with boats on the shortest notice. He was to allow those who were not able to pay at the ferries to pass over gratis, but no one was permitted to swim across a river. It was also the duty of this officer to prevent boats from travelling in the night, except in cases of urgent necessity. Nor was he to allow goods to be landed anywhere except at the public wharfs. (4) *Fourthly*—The imposition, realisation, and remission of duties. Akbar is said to have remitted transit duties equal to the revenues of a kingdom. Nothing was exacted upon exports and imports excepting a trifle taken at the ports which never exceeded  $2\frac{1}{2}$  per cent, and which was so inconsiderable, that merchants regarded it as a perfect remission.

The *Ain-i-Akbari* also gives some interesting details regarding boat hire and ferry rates in Akbar's time. "The watermen employed in navigating boats in rivers have never less than 100 nor more than 500 *dame* each per mensem."

"If a boat and people are hired, the rate for every thousand maunds is one rupee per cose. If only the boat is found by the owner, and the burer pays the boatmen, it is only one rupee for two cose and a half." The following were the Rates for crossing at the Ferries.

An elephant	...	...	...	2 dimes <sup>1</sup>
A cart loaded	...	...	...	4 " "
" empty	...	...	...	2 "
A camel loaded	...	...	...	1 "
" without a load	...	...	...	1 "
A horse or an ox loaded	...	...	...	1 "
An ox without a load	...	...	...	1 "
An ass or an yahu loaded	...	...	...	1 "
A man	...	...	...	1 $\frac{1}{2}$ cheels. <sup>2</sup>

And at many ferries a man passes free.<sup>3</sup>

It is also interesting to note in this connection that one of the principal duties of the *Kotwal* in Akbar's reign was to "see that particular ferries and wells are kept separate for the use of women only."<sup>4</sup>

Regarding the Punjab we have already noticed that in Akbar's time the inhabitants of this part of the country carried on the principal part of their communication with one another by water and that the Circuit of Thatta alone had boats of various kinds, large and small, to the number of 40,000. An idea of the amount of river traffic on the Indus valley may also be obtained from the *Baburah Namah* which records a furious storm at Thatta in 1526 A.D., that uprooted many huge trees and blew down nearly a thousand ships laden and unladen, and brought heavy losses upon the

<sup>1</sup>See at first cited Parg. 46, *Goswami R. L. Jit* (Blechmann), Vol. I, p. 31.

<sup>2</sup>*Blechmann's translation of a Desi* (in Blechmann), Vol. I, p. 31.

<sup>3</sup>*Goswami Gladwin*, Vol. I, pp. 222-24.

<sup>4</sup> *Ibid.*, p. 202.

shipowners.' The carriage of goods to Kashmir also, according to Abul Fazl, was chiefly effected by means of boats, where the 'boatmen and carpenters drive a thriving trade.'<sup>1</sup> Of river navigation in the Punjab, we have the following further testimony from some of the prominent European travellers in India during the 17th century. William Finch (1609-11), the merchant companion of Hawkins, observes that from Lahore, down the Ravee and the Indus, "go many boats, of sixtie tunne or upwards for Tatta in Sind . . . being a journey of some fortie dayes".<sup>2</sup> Sir Thomas Roe, the celebrated English ambassador to the court of Jahangir, says: "According to such relations as I have gotten, the River of Syndu were most commodious of all others, to which from Lahore anything may pass by water."<sup>3</sup> It is also stated in the *Khutubat-Tuzrikh*, a Persian manuscript of 1695 A.D., translated by Prof. Juhunath Sarkar, that in the province of Thatta there are many kinds of boats, and that the people depend mainly on them for purposes of conveyance, so that "merchants bring goods and stuffs from Multan and Blackkar to Thatta in boats over this river. Nay, even travellers in this country and large armies do not travel to Thatta except by way of the river".

Alexander Hamilton, who travelled in the East Indies for some thirty-five years from 1688 to 1723, and can therefore claim a good deal of knowledge about eastern affairs, has, in his *New Account of the East Indies*, the following appreciative words regarding navigation in and the vessels of the Punjab. "all share the benefits of inland navigation. Their vessels are called kutties, of several sizes. The largest can load about

<sup>1</sup> Elliot, *History of India*, Vol. III, p. 61.

<sup>2</sup> *Ibid.* Vol. II, p. 361.

<sup>3</sup> *Curious II. Persian Society*, p. 2. See also Dr. Faiz-i-Sohrab, *A Short History of Calcutta*, *Review*, Vol. LII (1871), p. 77.

<sup>4</sup> *Journal of the Royal Asiatic Society*, Vol. 1, p. 2. "Bawaliot's Report on the mouth of the famous Indus," as he observes later.

<sup>5</sup> *Index of Arrangements*, pp. 66, 71.

200 tons. They are flat-bottomed, and on each side cabins are built from stern to stem, that overhang about two foot, and in each cabin is a kitchen and a place for excretion, which falls directly in the water. Those cabins are hired out to passengers, and the hold, being made into separate apartments, are let out to freighters. And indeed in all my travels I never saw better conveniences of travelling by water."<sup>1</sup> It was this flourishing boat traffic, which led to the prosperity of Lahore-Bundar as an important medieval sea-port on the Indus—the Karachi of modern India,—with a large harbour "into which ships from Persia, Yemen, and other places put" to carry the very fine cotton linen and printed goods, earthen pots, sugar, sugar candy, iron, olive oil, the "most excellent and faire" leather, and various other products of Sind, once "a very rich and fruitful land," and the Punjab.<sup>2</sup> The first steam vessel, the *Snake*, was launched on the Indus—the first that navigated any Indian river—c. 1820 A.D.<sup>3</sup>

The greatest stir of commercial life and activity, both inland and foreign, was however felt in Bengal, which had been rightly famed for her abundant agricultural and industrial wealth throughout the period under our review. Panndravardhan and Gaur in the Malda District, and Rampa in Vikrampur, Dacca, were the important centres of trade and industry under the Pala and Sena Kings long before the advent of the Muhammadans. These regions being greatly intersected by rivers and creeks naturally gave a great impetus to boat building, and a large amount of traffic was carried on by means of boats and sailing vessels. In the Kalinapur copper-plate inscription of Dharmapaladeva there is a reference to bulges of boats built for the transport of

<sup>1</sup> Pickerton, *Papers*, Vol. VIII, p. 207.

<sup>2</sup> Travels of the Batata (1811 A. D.), p. 102; Lissebaten (1683), Vol. 4, p. 24; Manucci (1654-1727), Vol. 1, p. 69.

<sup>3</sup> "The Good Old Days of Humpy John Coom," (compiled from numerous publications by W. H. Cooley from 1800 to 1850), Vol. II, p. 28.

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armies, and also to an officer called Tarik, who was the general Superintendent of boats. In some of the copper-plate inscriptions of the Sena Kings, also, there is mention of naval force as an element of their military organisation.<sup>11</sup> In one of its campaigns, the great army of Rāmapala crossed the Ganges in Northern Bengal by a "Naukti-melaka," a bridge of boats, and immediately after the death of Rāmapala (cir 1098 A.D.), Vaidyadeva is said to have obtained a naval victory in Southern Bengal, probably against Anantavarmman, the King of Orissa.<sup>12</sup>

In the Muhammadan period, the earliest important reference to river navigation in Bengal is in connection with the naval expedition of Ghiasuddin Balban (1204-87 A.D.) against Fughrit Khan, the Governor of the province. The Governor having rebelled and declared his independence, on the failure of two previous attempts, the Sultan resolved to march against him in person, and "ordered a large number of boats to be collected on the Ganges and the Jumna." Proceeding into Oudh, he ordered a general levy, and two lakkhs of men of all classes were enrolled. An immense fleet of boats was collected, and in these he passed his army over the Sarau (the Sarayu or Gogra). The rains now came on, and, although he had plenty of boats, the passage through the low-lying country was difficult.<sup>13</sup> Fughrit fled from Lekhouti, was pursued, defeated and slain.<sup>14</sup> The next important notice about river transport is in connection with the two military expeditions of Sultan Firoz Shah Tughlik (1351-88 A.D.) against Bengal, which had declared its independence in 1340 and was never subdued, in both of which "many barrier-breaking boats (*kostha-vaadhanam*) were used, in which his whole army consisting of a lie of troops, had to embark in crossing rivers round the islands

<sup>11</sup> See Metcalfe and Mackenzie, *Bengal Inscriptions*, p. 251.

<sup>12</sup> It is remarkable that the name of Anantavarmman is also found in the copper-plate inscription of the same king, dated 1100 A.D. (See *ibid.* pp. 11-12).

**Pikliky and Sunarganj**—<sup>1</sup> Hussain Shah (1498-1520), the most prominent of the independent Pathan rulers of Bengal, himself maintained a powerful fleet, with which he once invaded Assam.<sup>2</sup> The capital city Gaur was in those days probably the most famous inland mart of Bengal to which flocked merchants from various parts of the country. There is an interesting reference in one of the old folk-songs of *Gambhir*, a Satyite festival in the modern Malda District (Bengal), that a merchant of the name of Dhunipati "sailed from Delhi to Gaur in ships that occupied so much of the river that there was scarcely any room left for bathing or taking water."<sup>3</sup> In his campaign against Patna in 1574 A.D., Akbar sailed from the capital in boats, which carried his enormous camp consisting of all his equipments and establishments, armour, drums, treasure, carpets, kitchens, utensils, etc. In the transport of salt alone, some forty vessels from five to six hundred tons burden each were annually employed between Bengal and Assam.

We have already seen that in the reign of Akbar elaborate regulations were made regarding the various functions of the office of *Moor Behar* or the Admiralty. The Naval Department was most efficiently organised in Bengal, and had under it, at the time it was established by Akbar, 3,000 war vessels (afterwards reduced to 768), besides the large number of vessels or boats that were required to be furnished by the Zamindars in return for the lands they held as *zamindari*.

stated by Jeannine (1770), Vol. I, p. 100, that the  
boats will be clearly recognisable when we come to  
examine 3000 Chinese junks. The boats  
of the first 1000 junks will be  
245 qd, 170. According to the  
Dongas, almost all the  
elephants, and 800 war boats

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This powerful naval establishment—the Imperial *Nawarrah*—was necessitated by the nature of the configuration of Bengal, where communication with the different parts, specially the eastern and the southern, was almost entirely unpredictable except by the navigation of large and extensive rivers. It was further made imperative by the hostility of many a local Zamindar, like Isa Khan, Kedar Ray, Pratapaditya and others, who maintained large and powerful fleets and often stubbornly resisted the Mogul power before they could be brought to subjection toward the close of Akbar's reign, as well as by the repeated depredations of the Arakan pirates, both Mugh and Feringhi, who, under the protection of the King of Arakan, in their *jolbo* boats, constantly ravaged the inland parts of Bengal as far as Dacca and Hugly, and carried off captives. The Arakan pirates could not however be suppressed till their protector, the King of Arakan, was defeated, in several naval engagements, by Shahista Khan, the Governor of Bengal, and Chatgum, the fortified retreat of the pirates, was annexed to the Mogul Empire (1666 A.D.)<sup>1</sup>

One of the important sources of revenue for the support of the *Nawarrah* was the *Wheer-Darre*, a tax which was levied

<sup>1</sup> Extracts from J. A. S. D. June 1862. Proprietary organized a large and powerful fleet to fight against the Mughals and the Mughals became pirates. Various kinds of boats were maintained by the naval department such as the *Koss*, *Baro*, *Bala*, *Pata* and *Mohur*. These were built at *Maharajganj* etc. Of these the *Koss*, the *Bala* and the *Jalo* were long sailing boats and were equipped with armament. The *Koss* were used either for the conveyance of men or horses or for the *Koss* and the *Bala* were long sailing and other day boats. In one of such *Koss* in 1610 A.D. Ramchandrapur was captured. Pratapaditya took *Jeetamati*. The *Bala* and the *Mohur* were built full for the *Bala* and could comfortably hold several persons. Not to speak of the inferior ones, only the largest war vessels of Pratapaditya exceeded four thousand. According to Abdu'l Latif a friend of the then Nawab of Bengal the number was 700. When the Mogul general Isayat Khan was sent against Pratapaditya Oudh attacked him with 600 war boats. A.C. St. John's History of Bengal and Assam in Bengal Vol. II Ch. 20. The writer of the journal of the voyage of the *Galions* has described the *Galions* and the *galleys*, etc., for the European visitors. Below are given the following description of the *galions*. These are very long and broad boats, apparently constructed principally with a view to defence. Indeed they cover long distances in the river. They carry no sail, but they have so many masts that regular sails are not required. (See p. 118, *History* of the note.

on the building of boats varying from 8 m. to Rs. 1-4 m., according to the size of the vessels, and on all boats arriving at or leaving the naval headquarters whose crew were not residents of the district. The river toll was originally confined to the city but was later extended to the country, where it was exacted by the Zamindars from every boat that passed their estates. "Though extremely oppressive and injurious to the inland trade," the water duty "was considered useful in leading to the detection of dacoits, as a registry of the boats, mafus, and boatmen belonging to each district was kept by the Zamindars." The duties levied on the boats sailing from Dacca, the head-quarters of the naval department, were:

	Rs. As.
To Murshidabad	0 8 per m.
" Calcutta	0 10 "
" Benares	1 8 "

while those on boats arriving at Dacca from these places were:—

	Rs. As.
From Murshidabad	1 0 per boat
" Calcutta	2 0 "
" Benares <sup>1</sup>	4 0 "

This brief review of the military aspect of water communication is sufficient to give us an idea as to what must have been the development of the means of river transport for the peaceful operations of trade and industry, specially in a place like Bengal, intersected as it always has been by numerous natural waterways and noted for its vast and varied wealth in raw and finished products throughout the length and breadth of India, and beyond. A land, which produced 'most plentiful' quantities of rice and sugar, 'so cheap that they were

<sup>1</sup> Taylor, *Geography of Bengal*, p. 1.

meritable to decline," manufactured stuffs of cotton and silk, "the best and cheapest," salt, saltpetre, scented oils, opium, lac, etc., which, after adequately meeting the needs of local consumption, were sufficient for foreign export, whose numerous ports like Satgaon, Hugly, Paphi, Chatgaon and others always bristled with commercial life and activity, and where some of "the richest merchants" were to be found, could hardly have attained this glorious state of prosperity, unless the means of internal transport and communication was sufficiently developed, and it was made practicable to transfer goods from one part of the country to the other. We have however little direct evidence regarding this, saving what we have already noted above, before we come to the 16th century. The *Tanq-e-Akkari*, a valuable mine of information with regard to all economic matters during the sixteenth century, states, as we have already seen, that in Bengal, as in Kashmir and Thatta, the boats were "the centre upon which all commerce moves." There were also the bullock-carts and pack animals, from time immemorial the chief means of land transport in all parts of India, to facilitate the transport of merchandise by land.

From the latter part of the 15th century, however, we have some references to inland water transport by European writers to which we shall now refer. Ralph Fitch (1583-84) sailed from Agra to Satgaon in Bengal with fleet of 180 boats, laden with salt, opium, lead, carpets, etc. Writing about the year 1610, William Finch says that on the Jumna there are "many Boats, some of one hundred Tonnes." In his *Journal* written by John Jourdain, one of the servants of the English East India Company, in 1611 A.D., the writer observes in connection with the salt trade: "There is yearly carried from Agra to Bengal above 10,000 tons of salt in greate

<sup>1</sup> *Journal of the Asiatic Society of Bengal* (1825 A.D.) p. 212. *Correspondence of Sir R. G. B. and T. B. pp. 310-312.* *Bengal Gazetteer* (1878-80) p. 132-34. *Itineraries* (1688-1701) p. 132-34. *Journal of the Asiatic Society of Bengal* (1825 A.D.) p. 212.

<sup>2</sup> *Journal of the Asiatic Society of Bengal* (1825 A.D.) p. 212.

<sup>3</sup> *Journal of the Asiatic Society of Bengal* (1825 A.D.) p. 212.

barques of four and five hundred tons apiece." Peter Mundy, probably the most prominent of the European travellers in India in the first half of the 17th century (1628-34 A.D.), says that Great Bajters or Barjes of 3, 4, or 500 tons each regularly plied between Agra and Bengal, as far as Dacca, touching on the various important inland river stations like Etwa, Almabad, Patna, etc., transporting chiefly salt and diverse other kinds of merchandise, and that many of these Bajters or Gabbers (Gabbarts or Gabbes) as he calls them, served also for transporting great men with their household and household stuff, and had houses in the middle for the women. Some of these great boats had "several rooms, able to carry a pretty village with all their inhabitants and goods, such is their hugeness." Mundy also refers to the many pleasure boats he saw at Agra and Patna, which were owned by the nobles and other great people, and were their principal conveyance by water. They were what are now commonly known as the *Bijra* or the *Hajarpukhi*, as will appear from the following description: "These boats I cannot resemble to any thing better than a Garfish (garfish), extraordinary lowe, longe and sonner, with 20, 25 or 30 oares of a side, all severally painted, some greene, some redd and blaw, etc. The place where the great man sits is either fore or in the middle, in a Cartous Chowtree made of purpose. When they rowe to any place, they are stuck full of flagges there, hanging downe on the prow, which shoots

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forward a myghtie way, as doth the Sternie afterward on, both ends sharpe alike. I say, on both sides of the prowe hang downe many of those Cowe Tales so much esteemed. They use a Cheere to ther coming (?) going), as wee doe in our Barges, one giveinge the word best and then all the rest answerre." Mundy also found on the Chambal in Rajputana "many great passage boates both ends lookinge upwards like a halfe moone or as you use to painte Shippes of ancient tyme, or Noahs Ark." \*

Some more interesting descriptions and representations of boats, that are "amongst the best of the kind for the period," are to be found in the *Geographical Account of Countries round the Bay of Bengal* by Thomas Bowrey, an English traveller in India during A.D. 1656-79. He gives the following descriptions of some of the boats then in use in Bengal: (1) the *Olocko*. "They row some with 4, some with 6 owers, and ply for a faire as wherries doe in the Thames." (2) the *Bulparoo* (*Bogra*) or Pleasure Boat. It has a convenient room at the stern, and is much used by the gendres and other great people. (3) the *Purroo*. These they use "for the most part between Hugly and Pyple (Pipli) and Ballipore. With these boats they convey goods into the Roads on board English and Dutch, &c., ships. They will live a longe time in the sea, beinge brought to anchor by the stern, as their usual way is". (4) the *Boat*. It is "a very flouty light boat, rowinge with 20 or 30 owers. These carry saltpeeter and other goods (from Hugly) downwards, and some trade to Dacea with salt, they also serve for tow-

Mundy, Vol. II, pp. 223-4, and subsequent pages. See also Rennell, *Geographical Description of Bengal*, 1788-89 A.D., Vol. I, p. 102. For another description of the boats of the Ganges in Bengal according to W. King, the translator of the *Book of the Ganges*, sometimes calculated up to 100 ft. in length, see the original. The lighter boats in Bengal and not very expensive sailing vessels are called *Shalops* of painted wood and *gondolas* which are highly varnished and robust as compared to those of Ganga.

\* Mundy, Vol. II, p. 48.

boats for the ships bound up or downe the river"; and (5) the *Patella*. These are boats "that come downe from Pattana with saltpester or other goods built of an exceedinge strength and are very flatt and burthenosome," each carrying down 4, 5, or 6,000 Bengal maunds of 82 lbs. each.<sup>1</sup> Bowrey also mentions that a very considerable amount of traffic was daily carried on in the great *bazaars* of Hugly, where could be bought and sold all sorts of commodities of Bengal, Orissa and Patna, and the diverse imports from foreign parts.<sup>2</sup> According to Alexander Hamilton, the town of Hugly "drives a great trade, because all foreign goods are brought thither for import, and all goods of the product of Bengal are brought hither for exportation...It affords rich cargoes for fifty or sixty ships yearly, besides what is carried to neighbouring countries in small vessels."<sup>3</sup> Regarding the navigation of the River Hugly Bowrey observes: "Up and downe the same a very considerable merchandize is drove, and very beneficiall, especially to the English and Dutch nations, havinge excellent conveniences for carryinge their European commodities up into the inland towns and cities, and the like for bringinge downe the commodities purchased in this or some other kingdom."<sup>4</sup>

The *Gentleman's Gazette* of Calcutta records a furious hurricane at the mouth of the Ganges on October 11, 1737.

<sup>1</sup> Bowrey pp 225-50. For illustrations see Plates XIII and XV. The *Bajis* were the *Barcas* of Ralph Fitch which had 24 or 30 oars to row them, and had a large carrying capacity. Foster, East Trade in India, p. 22. A hundred years later (1770 A.D.), Kawortham notes some boats (called *Bajis*) in Bengal that "can load fifty thousand pounds weight of merchandise and men" and which "are built for the *Bajis*, which are very long low and narrow are not calculated for the conveyance of goods are very expetitious for passing from one place to another. The rooms in the *Bajis*, according to Kawortham are four or five feet square in height, and are no accommodations so that were in a barge." *Journal of the Indian Asiatique* Vo. I, pp. 465-67.

<sup>2</sup> Bowrey, p. 108.

<sup>3</sup> Ibid, p. 108, note 2.

<sup>4</sup> Ibid, p. 108.

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which blew down a large number of houses, and it was computed that "20,000 ships, barges, sloops, boats, canoes, etc., have been cast away".<sup>1</sup> In his *Memoir of Hindusthan* (1787 A.D.), Rennell observes that considering the very large amount of traffic that is carried on in Bengal it is no wonder that the inland navigation gives "constant employment to 30,000 boatmen".<sup>2</sup> These contemporary records would give us a fair idea as to the nature and extent of water transport in Bengal during the 18th century. Finally, we have the following interesting information regarding boat hire and the duration of voyage between Calcutta and other parts in the year 1781, as furnished by *The Good Old Days of Hon'ble John Company*.

## Boat Hire (cir. 1781 A.D.)

		Rs. As.
For a bullock <sup>3</sup> of 8 daunders per day		2 0
" " 16 "		6 0
" " 24 "		8 0
For a woollock of 4 daunders per month		22 0
" " 6 "		25 0
" " 8 "		29 0
For a boat of 250 maunds per month		29 0
" " 400 "		40 0
" " 500 "		50 8

<sup>1</sup> THE GLOUCESTER HERALD quoted in *Calcutta Gazetteer* (1838) Vol. I p. 9  
from publications by W. H. Cresswell, M.A., & others. See Vol. I p. 9.

<sup>2</sup> RENNELL, *Memoir of Hindusthan*, p. 224. See also Blavatsky, who says: "For carrying goods carts of a very simple construction are made use of... But the transporting of goods is mostly effected by water, through the numerous channels and canals with which the country (Bengal) is intersected." Vol. I, p. 402.

<sup>3</sup> In those days the bullock teams were the principal conveyance of Government officers and their great progress proceeding to the North Western provinces and the different parts of Bengal where water communication was possible.

## DURATION OF VOYAGE

To go to Murshidabad	is	25	days
Patna .	"	60	"
Benares	"	75	"
Cawnpore	"	90	"
Fyzabad	"	105	"
Malda	"	87½	"
Rungpore	"	62½	"
Dacca	"	37½	"
Chittagong	"	60	"
Goalpara <sup>1</sup>	"	75	"

The time taken to cover the distances between Calcutta and Murshidabad, Patna, etc., as indicated above, appears to be unusually long from what we know of boat journeys between the same places at the present day. We also find that in the time of William Hedges, a Company's servant (1682 A.D.), it took about 11 days by boat to go from Hugly to Dacca by way of Kasimbazar.<sup>2</sup>

Steam vessels appear to have been first introduced in Bengal in 1823 A.D.<sup>3</sup> The *Doula* was the first steam boat to ply for hire on the river Hugly.

The materials for studying the transportation systems of Southern India are rather meagre, and here we are on less secure ground. But from what we know of South Indian economic conditions in the mediæval period, the following observations may perhaps be made in this connection. Southern India developed very little communication on her inland waters. The rivers of the Indian Peninsula have never been much navigable except within a few miles of their mouths. The various country junks and vessels of the

<sup>1</sup> *The Good Old Days, etc.*, Vol. II, p. 16.

<sup>2</sup> *Diary of William Hedges*, Vol. I, pp. 36-42.

<sup>3</sup> *The Good Old Days, etc.*, Vol. I, p. 16. "In 1823 B. C. the first steam boat was built at Calcutta."

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South seem to have been mainly used in the loading and unloading of ships in the numerous ports that studded the extensive range of the Indian sea-board, and the principal part of inland transport seems to have been effected by means of carts and pack-animals. This probably explains the comparative silence of mediæval writers on inland navigation in the South. From the earliest times, South India has been chiefly celebrated for her trans-oceanic commerce, and it was to this ocean navigation that her attention was principally directed ; and she early developed the arts of shipping and ship-building. For internal trade, besides land transport, she depended on coasting voyage which was so easy and convenient to her. The numerous mediæval ports from Ilahor-Bandar to Chatgaon traded with one another, and thus found an easier outlet for their saleable merchandise. The important centres of trade and industry in the South, moreover, were generally located near the sea-coasts, probably to overcome, to some extent, the difficulties of transportation.

We can here allude only to a few references of any note regarding boat traffic in the South. The Portuguese writer Domingos Paes (cir. 1520 A.D.) refers to a peculiar kind of boats he saw in Vijaynagar. These he calls basket-boats. They "are round like baskets, inside they are made of cane, and outside are covered with leather, they are able to carry fifteen or twenty persons, and even horses and oxen can cross in them if necessary, but for the most part these animals swim across. Men row them with a sort of paddle, and the banks are always turning round, as they cannot go straight like others, in all the kingdom where there are streams there are no other boats but these." These basket-boats were usually from eight to twelve feet in diameter, and were greatly used for military purposes for crossing wide and unfordable rivers.<sup>1</sup>

<sup>1</sup> Howell, *A Persian Empire*, p. 260.

<sup>2</sup> Wilks, *History of Mysore*, Vol. I, pp. 267, 268.

Pyrard de Laval, a French traveller who visited India in the year 1607 A.D., speaks of the *Manchoué* he saw at Goa, as being a large gondola which was rowed by 8 or 9 men. "It is very comfortable, being built in the form of a carriage, saving that it has no opening at the sides."<sup>1</sup> The *manchoué* was probably the same which Fryer calls a "baloon."<sup>2</sup> Peter Mundy refers to many country "junks" at Surat, each having a carrying capacity of as much as 1,000 and 1,200 tons. They generally navigated the mouth of the Tapti, and were a necessary adjunct of the most celebrated of the Indian ports in his time.<sup>3</sup> Bowrey gives an account of two classes of boats, the *Massoola* and the *Cuttamaran*, which were merely planks sewn together with coir or logs of wood joined together and securely fastened like a raft, which were mostly used on the Coromandel Coast for fishing and for loading and unloading ships. They were most suited to brave the breakers on the beach; and they can still be seen in their primitive condition engaged in fishing along the Madras sea-board, and even at Puri. The *massoolas* were flat-bottomed, and could convey only very light goods, as bails of calicoes or silks, not exceeding 6 or 8 at a time. The *cuttamarans* carried heavier weight of from 3 to 4 tons each.<sup>4</sup> John Fryer, who visited India during 1672-81 A.D., landed at Masulipatam in one of these country boats. These he describes as being "as large as one of our ware-barges and almost of that mould, sailing with one sail like them, but paddling with paddles instead of spreads, and carry a great burthen with little trouble, out-living either ship or English skiff over the bar."<sup>5</sup>

Besides the numerous large and navigable rivers, there were also many artificial waterways in India during the period under review. These were however constructed mainly for

<sup>1</sup> *Travels of Pyrard de Laval*, Vol. II, Part I, pp. 42-43.

<sup>2</sup> *Fryer, A New Account of East India and Persia*, Vol. I, p. 132.

<sup>3</sup> *Mundy*, Vol. II, p. 30.

<sup>4</sup> *Bowrey*, pp. 43-44, see Parte VIII.

<sup>5</sup> *Fryer*, Vol. I, p. 79.

the purposes of irrigation; and it is not known how far they were navigated. Some of the more important of the canals built during the period were the following.—(1) The famous Jumna and Sutlej Canals, constructed about the year 1355 A.D. over a total length of nearly eighty *kos* during the reign of Firoz Shah Tughlak;<sup>1</sup> (2) Ali Mardan's Lahore Canal, built by 'an adept' in canal construction about the year 1640 A.D.;<sup>2</sup> (3) the Malijal Canal in the Dinajpur District of Bengal (18th century A.D.), which is said "to have carried a considerable volume of water";<sup>3</sup> and (4) the *Tattala Khat*, said to have been dug about the middle of the 18th century by Raja Rajballav to facilitate communication between his capital Rajnagar and Dacca. The canal effected a considerable saving of time by reducing the distance between the two places by about twenty or twenty-five miles on the river route.<sup>4</sup> There were also many artificial channels in the South, constructed by the great Chola Emperors (10th and 11th centuries A.D.) and the Kings of Mysore (17th century A.D.).<sup>5</sup>

<sup>1</sup> Elliot, *History of India*, Vol. III, p. 200.

<sup>4</sup> Ibid., Vol. III, p. 67.

<sup>2</sup> Bengal District Gazetteer (Dinajpur), p. 98.

<sup>3</sup> Hunter, *Bulletin of Accounts of Bengal*, Vol. V, p. 33.

<sup>5</sup> Imperial Gazetteer, Vol. IX, p. 204, Vol. X, p. 274; K. Aiyangar, *Ancient India*, pp. 166-87.

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## CHAPTER II

### LAND TRANSPORT

Of the chief essentials to land transport are.—(1) suitable roads and bridges, (2) suitable carts and other means of conveyance; and (3) animal carriers (before the era of steam power). Of these the second and the third are of comparatively little importance in that they have not been serious obstacles to the development of transport and have not greatly taxed human ingenuity and endeavour in any part of the world. The animals were Nature's gift, and man's skill was exercised only so far as to break them to his use. The difficulty of locomotive wagons was overcome once for all as soon as the wheeled carriage was invented. The greatest difficulty lay, however, with the roads and bridges, which were no man's property and therefore perhaps often received less attention. They required a great deal of technical knowledge for construction, a constant supervision for maintenance, and a considerably large amount of capital outlay for their building as well as upkeep. These technical and financial difficulties were indeed almost insuperable, until a wealthy individual, or a corporate organisation, private or public, shouldered the financial burden, and knowledge was sufficiently developed to grapple with the problems of civil engineering.

#### CARTS AND COACHES.

From time immemorial to the commencement of the railways, carts and pack-animals were the principal means of land transport in all parts of India. These carts were the

forerunners of the modern bullock-carts, and were suitable mainly for goods transport. Some improvements and inventions in carts and coaches are said to have been made by Akbar, who, according to Abul Fazl, "invented an extraordinary carriage, which has proved a source of much comfort for various people. When this carriage is used for travelling, or for carrying loads, it may be employed for grinding corn. His majesty also invented a large cart, which is drawn by one elephant. It is made sufficiently large so as to hold several bath-rooms, and thus serves as a travelling bath. It is also easily drawn by cattle." There were also "finely built carriages," according to Abul Fazl, which were called *bahals*, and could carry several people. These were of two kinds:—(1) *chattridar*, or covered carriages, having four or more poles to support the *chattri*, or umbrella. They were probably the precursors of the modern *ekka* and the *tonga*, to be found in such large numbers in the Upper Provinces, and (2) those without a covering. These carriages, like the carts, were usually drawn by oxen. There were also carriages, that were drawn by horses, and were known as *ghurbahals*.<sup>1</sup>

English coaches were introduced into India by Sir Thomas Roe in the early part of the 17th century. Amongst his presents to the Emperor Jahangir one was a coach, the cost of which in England was what was then £151-11s. Although the coach was scorned by the "grand Mogul" as "little and poor," not befitting the present from a monarch,

<sup>1</sup> *Ains Akbari* (Blockman and Jarrett's translation), Vol. I, pp. 150 and 276. The *chattridar* was the Indian Coach as often referred to by European travellers. It had only two wheels. They have many fine Coats and many of them carved and gilded with Gold, with two wheels. They are covered with Balke or very fine cloth, and bee used here as our Coaches be in England.—F. H. (1591-92) in Purchas, X, 174. "They have also, for travelling, small, very light carriages, which can contain two persons but usually one person alone, so as to be more comfortable"—Tanner (ed. Bally, I, 44). See also P. Deua Valle I. 21. Peter Martyr, 15-162 illustration No 13, Fryet, III, 107-48.

and was not used till it was so reconstructed and transformed with rich gold and silk stuff that Roe "knew it not but by the cover," it "gave much content for the form and for a model," and several others were made like it, there being "amongst them (Indians) most curious artificers, who are the best apes for imitation in the world, and will make any new thing by a pattern." These coaches do not appear, however, to have come into general use. "Four-wheeled coaches," says Dr. Fryer (1670-81 A. D.), "here are none, unless some few the Europe merchants have." Even in the beginning of the 19th century, there were few carriages in Calcutta, notwithstanding that coach makers had set up in business in the city, and were in the habit of importing carriages, as is evident from the advertisements in the earliest numbers of *Hicky's Gazette*, as far back as 1780.<sup>1</sup>

#### ANIMAL CARRIERS.

The ox, the buffalo, and the camel were the usual beasts of burden, and the drivers of vehicles in the mediæval period. Horses were rare, and were scarcely used either for riding or for carriage. These were chiefly imported in large numbers from Arabia, Persia and Tartary, and many of these perished on their way. They were necessarily very dear and were therefore meant only for the wealthy. The Venetian traveller Marco Polo, who visited India about the year 1290 A. D., while speaking about the considerable amount of horse trade on the Malabar Coast, observes — "Here are no horses bred," and that they are imported from Arabia and Persia in large numbers. Some of them cost more than 100 marks of silver, a mark being equal to £2 4s. of modern English silver.

<sup>1</sup> *History of Sir R. K. Cawnpore's Travels in India*, Vol. I, p. 247.

\* *Gazette and Press of Calcutta*, 12th June 1800, p. 112.

money, they cost more than £220, or Rs. 3,300.<sup>1</sup> The Russian traveller Nikitin (1470 A. D.) says, "Horses are not born to that country (India), but oxen and buffaloes; and these are used for riding, conveying goods, and every other purpose."<sup>2</sup> In his description of the return of the Mogul army from Harhanpur to Agra in 1632, which consisted of a great number of elephants, camels, carts, coaches, *dolis*, *palkis*, etc., Peter Mundy notices only two of the king's 20 coaches being drawn by *Archies* or *Kochis*—horses from Cutch being known by that name—the rest being drawn by oxen.<sup>3</sup> The celebrated French traveller Tavernier (1640-67 A. D.), also did not find horses employed in caravans or journeys, "all being carried there on oxen or by waggon . . . If any merchant takes a horse from Persia he only does it for show, and to have him led by hand, or in order to sell him advantageously to some noble."<sup>4</sup> The great Mogul's horses cost, in Tavernier's estimation, from Rs. 6,000 to Rs. 20,000.<sup>5</sup> The horse was mainly used, it seems, for military purposes, i.e., for the cavalry. Dr. Fryer (1672-81) also refers to the very high price of horses, the best Arab or Persian horse costing from £100 to over £2,000, and the absence of pack-horses in India, so that even the Bombay Governor's coach was drawn by oxen.<sup>6</sup> The very high price of the horse and the considerable profits that were being made by the horse dealers led to the careful breeding of horses in several parts of India, and Emperor Akbar, in consideration of their "great importance in the three branches of the government," took special care to improve the native breeds in his dominion. He also strictly prohibited the exportation of horses from Hindustan, and, on account of the large profits of the horse dealers, levied a tax, varying

<sup>1</sup> *Travels of Marco Polo* (ed. Yale, Vol. II, p. 240, App. p. 293).

<sup>2</sup> *India in the Fifteenth Century* (Hist. Soc. Publ.), p. 10.

<sup>3</sup> *Travels of Peter Mundy*, Vol. II, p. 192.

<sup>4</sup> *Tavernier*, I, 20, 222.

<sup>5</sup> *Fryer*, I, 176, 206.

from Rs. 2 to Rs. 3, on each horse imported from abroad. The country-bred horses, however, generally, fell short in strength and size, as well as in their performance. The best horses were bred in Cutch, "being equal to Arabs." In Akbar's time, the price of the horse varied "from 500 mohurs to 2 Rupees." Very fine Arab horses were also bred in the Bari Doab, between the Ravi and the Jhelum, in the 17th century, but their price was very high, some of them coming up to Rs. 10,000 or Rs. 15,000. Thus, notwithstanding the considerable import of horses from abroad and the extensive breeding at home, horse transport was almost entirely absent in mediæval India.

The ox, the buffalo, and the camel were thus the only important carriers. Buffaloes and oxen were used in all parts; camels, generally in Rajputana, Sind and the Punjab. Camels were besides the only beasts of burden that were employed in the caravan trade to Western and Central Asia. All these animals not only drew carts and coaches and carried goods on their backs, but also often formed the principal means of conveyance for the general mass of the people. We have already referred to the testimony of Nikitin to this effect. A few more evidences may be quoted here. According to the *Sukranta* (composed between the 10th and the 14th centuries A.D.), "the price of the bull with sufficient strength, which can carry burdens and can walk fast, is 60 palas or Rs. 180." Referring to the high esteem in which the ox is held by the Hindus, Nicolo de Conti, the Venetian traveller, who visited India in the year 1420 A.D., says: "The Indians use the ox as a beast of burthen which they

\* Kharlamov & Tsvetkova (1995: A, D) — *Trachysula* N. G. Sars.

\* Subrata, Prof. Benoy Kumar Sarkar & others v. The State of Bihar

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consider it a great crime to kill or eat, as being of all the most useful to man" <sup>1</sup>. Caesar Frederick, another Italian traveller, who visited India during A.D. 1583-89, says "To go from Vijaynagar to Goa, a distance of eight days' journey in summer, I bought me two bullocks, one of them to ride on, and the other to carry my victuals and provision, for in that country men ride on bullocks" <sup>2</sup>. According to the English merchant Edward Terry (1615 A.D.), only "The inferior sorts of people ride on oxen, horses, mules, camels or dromedaries" <sup>3</sup>. Bullock-riding may have been usual with the poorer classes of the people, as it sometimes is even down to the present day in some remote parts of the country; but it is difficult to understand how the inferior sorts of people could ride on horses, when they were so scarce, and why horse-riding should have been considered disreputable among the upper classes. It is probable, if we should accept Terry's view as correct, that horse-riding, not being very popular with the Indians as it is not to the present day - was, in Terry's time an object of despise among the more well-to-do when they could travel in the more comfortable and convenient 'Sukhisen' or the palanquin, of which we shall speak later.

Abul Fazl gives the following interesting information about the ox and the cow. "Throughout the happy regions of Hindustan, the cow is considered auspicious, and held in great veneration; for by means of this animal, tillage is carried on, the sustainer of life is rendered possible, and the table of the inhabitant is filled with milk, butter-milk, and butter. It is capable of carrying burdens and drawing wheeled carriages. Though every part of the empire produces cattle of various kinds those of Gujerat are the best. Sometimes a pair of them are sold at 100 mohurs. They will travel 50 kos [120 miles] in 24 hours, and surpass even swift

<sup>1</sup> *Itinerarium Indorum*, p. 22.

<sup>2</sup> *Patcha, Palaonam*, Vol. X, p. 68.

<sup>3</sup> *Ibid.*, Vol. IX, p. 20.

horses. The usual price is 20 and 10 mohurs. The cows give upwards of half a *man* of milk. His Majesty once bought a pair of cows for two lacs of *dimes* (5,000 Rupees).<sup>1</sup>

Regarding the speed of the oxen, we further find in Pietro della Valle, the Italian traveler (1623 A. D.), that they "run and gallop, like horses," and while drawing carts and coaches, being "beset with many tufts, or bussels, and abundance of bells at their necks, when they run or gallop, through the streets, they are heard at a sufficient distance, and make a brave show."<sup>2</sup> Tavernier also observes that in India, "oxen take the place of horses. These oxen allow themselves to be driven like our horses." For a pair of oxen to draw his carriage, Tavernier paid "very nearly 600 Rupees. The reader need not be astonished at this price, for there are some of them which are strong, and make journeys lasting 60 days, at 12 or 15 leagues a day and always at the trot."<sup>3</sup> Fryer (1672-81) observes, "These, [bullocks] not only pluck up their heels npace, but are taught to amble, they often riding on them."<sup>4</sup> According to the *Khulasa* (1695 A. D.), the oxen of Cutch were famous for their graceful motion and swift pace. In half a day, they could travel 50 *kos*; and a pair of these beautiful oxen cost more than 500 Rupees.

Camels were also in great abundance in India, specially in Rajputana, Gujarat and Sind, where they were chiefly bred. According to the *Sukramitri*, the good camel can go 30 *yojanas* (160 miles) in one day; and its price is 100 silver palas or Rs 800—the price of the ordinary camels being that of the buffalo, i.e., Rs 50 or 64.<sup>5</sup> From the *Agam Akhara* we learn that "From the encouragement given by His Majesty, there

<sup>1</sup> *Ain*, I, 148-49.

*P. T. S. T. 1873*

<sup>2</sup> *Tavernier*, I, 43-44.

*C. 1873*

<sup>3</sup> *Khulasa*, India of Arangabad, p. 60.

<sup>4</sup> *Agam Akhara*, p. 140. See also *M. G. C. 1873*, p. 10.

<sup>5</sup> travel by report 70 ordinary courses a day.

are now bred in Hindustan camels that excel those of Turan and Iran," that though they are bred in many places, "near the province of Cutch, are great numbers, and very fine. But in Sind is the greatest abundance, in so much that many an inhabitant of those parts is master of 10,000 camels and upwards", that the price of the camel ranged from 2 to 12 mohurs according to its quality; and finally that it could carry a load of as much as 10 maunds without much difficulty<sup>1</sup>

### ROADS, BRIDGES, AND REST-HOUSES

#### *Roads.*

The importance of inland communication was early recognised by the Hindus, and special provision was made, at least as early as the Maurya period, for the construction and maintenance of the highways.<sup>2</sup> One of the principal duties of a prince, according to the *Sukraniti*, was to see that proper facilities were maintained for land as well as water transport. This is sufficiently suggested in the following advice: "Bridges should be constructed over rivers. There should also be boats and water conveyances for crossing the rivers. Roads are to be provided with bridges".<sup>3</sup> The *Sukraniti* further lays down some very important rules and regulations regarding the construction and maintenance of the highway, which clearly indicate that the principles of road-making were fairly well understood in the days of the Sukra authors, and that due regard was had to matters of sanitation and the comforts and conveniences of travel. After enjoining the construction of

<sup>1</sup> *Arch. Asiat. Collected Translations*, Vol. I, pp. 141, 171-2.

<sup>2</sup> See Vincent Smith's *A Short History of India* (2nd ed.), p. 125; also Brijendra Kumar Barua, *Principles of Indian Law* (1927), pp. 100-102.

<sup>3</sup> *Sukraniti*, pp. 205, 35.



*rāyamārgas* (15 to 30 cubits wide) and *margas* (10 cubits wide), with *pādgas* or "foot-paths" (3 cubits wide), in the town and the country, the *Sukrānti* observes "The roads are to be made like the back of a tortoise (*i.e.* high in the middle) and provided with bridges. And the road should be provided with drains on both sides for the passage of water. The Kings should have the roads repaired every year with gravels by men who have been sued against or imprisoned."<sup>1</sup>

With the advent of the Muhammadans and the foundation of a Muhammadan Empire in Northern India, roads began to be laid in the different parts of the country connecting the principal cities with one another chiefly for military purposes.

In Southern India, where river communication could be little developed, internal trade was always mostly carried on by land. It was this land transport which furnished the sea-ports with the principal articles of merchandise, which were sent out in fleets of merchant vessels to the different parts of the world, and enabled them to attain that state of splendour and prosperity which has been attested by the numerous foreign travellers who visited S. India during the medieval period. The remarks of the African traveler, Ibn Batuta (1341 A. D.), and the Venetian, Nicolo de Conti (1420 A. D.), regarding the wealth of the southern parts deserve in this connection special mention. Of Calicut, "a noble emporium for all India," says Ibn Batuta, that among others, very large Chinese junks which employed as many as 1,000 men, visited this maritime city, and that the merchants were so very wealthy that "one of them can purchase the whole freightage of such vessels as put in here, and fit out others like them."<sup>2</sup> Of South India in general, observes Conti:

"The inhabitants have most sumptuous buildings, elegant habitations, and handsome furniture. The men are extremely humane, and the merchants very rich, so much so that some will carry on their business in forty of their own ships, each of which is valued at fifty thousand gold pieces."<sup>1</sup>

Though India had made considerable progress, in architectural engineering and the various chemical and industrial arts in the past, the principles of scientific road-making seem to have been little known in the country—save perhaps what has already been said about the *Sukra* authors as in other parts of the world, during the mediaeval period, before the work of MacAdam in England in the early years of the 19th century. It was not however along the ordinary village tracts that land communication between the distant parts of the country was generally carried on. That high roads were constructed and maintained between the Imperial and Provincial cities, which served the means not only of military but also of economic transport, is sufficiently clear from the work of the Indian rulers of the period under review.

Sher Shah is rightly considered, as will be shown later, to be the greatest builder of highways and the promulgator of numerous beneficent laws for the welfare of both his Hindu and Muhammadan subjects, but he was not indeed the earliest in the field so far as at least the question of land routes is concerned. Ghiyasuddin Tughlaq (1326-57), the most energetic and capable ruler of the Slave Dynasty, is said to have cleared the jungles and forests over a large tract of the country, built roads and fortresses, and suppressed brigandage.<sup>2</sup> Ibn Battuta, in 1341 A.D., found the highways shaded by trees, with resting houses and wells at regular

<sup>1</sup> *Itinerarium Peregrinationis in Indiam*, p. 21.

<sup>2</sup> *Alphonse de la Guérinière's Travels in India*, p. 273.

intervals along a great part of the coast of Malabar, then under the Hindus. And the great Chola Emperors of the South were reputed, long before the time of the African traveller, to have taken considerable interest in the matter of inland communication, and spent large sums of money on roads and irrigation channels. Regarding the roads in the Chola Empire (900-130 A.D.), which extended, at the height of its glory, along the entire coast of the Coromandel, observes Krishnaswamy Aiyangar — "We have ample evidence of the country's having been traversed by grand trunk roads. That armies could march to Kottaru near Cape Comorin at the one end, and the banks of the Mahanadi, if not the Ganges, at the other end of the peninsula, and that trade was carried on largely by means of 'vessels' and 'vehicles' are enough to prove their existence. If more proof be needed we have it in the fact that Kulottunga planted agricultural colonies 'along the road to Kottaru', and in the references in some of the inscriptions to roads of sixty-four spans, etc."

The Emperor Firoz Tughlak (1361-88) also was a great builder of works of public utility. "His reign," says Elphinstone, "though not brilliant in other respects, was distinguished for the enlightened spirit of his regulations, and the extent and utility of his public works." He was the builder of the famous Jumna Canal. He is further credited with the following public works, for the maintenance of which lands were assigned. — 50 dams across rivers, to promote irrigation; 40 mosques, 30 colleges, 100 caravanserais, 30 reservoirs for irrigation, 100 hospitals, 100 public baths, 100 bridges—besides many other edifices for pleasure or ornament.<sup>1</sup> But the greatest Muhammadan ruler in India since Muhammad Ghori conquered the country was Sher Shah (1540-45), who, amidst his constant activity in the field,

<sup>1</sup> Elphinstone, p. 470.

<sup>2</sup> E. Aiyangar, *Ancient India*, pp. 348-50.

<sup>3</sup> Elphinstone, p. 466.孔雀河的长度不超过一英里，即少于465公尺。

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during his short reign, brought his territories into the highest order, and laid the foundations of those beneficent laws, which found their way into the enlightened administrative measures of Akbar, and still form the fundamental bases of the principles of the Indian Government. The 'benign' Emperor is said to have established horse-posts, and constructed high roads, throughout the land, planted with trees, and provided with wells, and *sarais* at every two *kos*—the most important of which were the one from Sunargaon in Bengal to Rhotas in the Punjab—known as the 'Badshahi Road'—and the precursor of the modern great Trunk Road—, the other from Agra to Burhanpur, and the third from Agra to Jodhpur and Chitor.<sup>1</sup> In Akbar's reign, we are told by Abul Fazl, the Khaibar Pass was "made easily practicable for wheeled conveyance" by the Emperor's command<sup>2</sup>

Besides these imperial highways, roads were also constructed in the provinces, connecting the principal cities with one another, as for instance, in Bengal, the great Trunk Road from Chittagong to Mymensingh via Noakhali, Comilla and Dacca, and the one from Rajshahi to Rungpur via Bogra, and extending to the south probably as far as the Sunderbans by way of Malda and Murshidabad.<sup>3</sup> Centuries before the advent of the Muhammadans into their territories, the native rulers of Assam had maintained extensive roads throughout the length and breadth of their kingdom, as for instance, the Kamali Ali, running 350 miles between Cooch-Behar and Nalinapur, and the Tengri Itaj Ali, running over 400 miles between Rongpur, and Natrak, some of which are still in use in parts.<sup>4</sup>

In the South, Tipu Sultan is considered to have been the greatest of the road-builders in the 18th century. In this

<sup>1</sup> Tarikh-i-Sher Shahi, ed. I, vol. IV, 417-18.

<sup>2</sup> See 31-40.

<sup>3</sup> Benoyt Low's 'Geography' says "a number of roads were made under the Muhammadans are shown in Van den Berghe's Map of 1600 A.D." See *History of Bengal (in Bengali)* by East Bengal's Board of Education (2nd ed., p. 116).

<sup>4</sup> Shakespeare, L. W. *History of Upper Assam, etc.*, pp. 1-2.

connection observes the *Salem District Gazetteer*, "The British were not the first road-makers in India. Tipu's road-engineering was of no mean order." The Sultan built many roads throughout his dominions, the most notable of them being—(1) That from the left bank of the Cavery to Hosur and Dharmapuri Taluks, a portion of which "would even now be fit for a carriage road", and (2) The Dandu Ott or the 'Army Road,' from Krishnagiri to Bell Kots.

The principal highways were also measured and marked with *kos* posts to indicate the distance and point out the different roads. During the reign of Emperor Babar, the Agra-Kabul road was measured, and towers were erected 'at every ninth Kuroh (cir. 18 m.)' \* Akbar erected stone pillars 'at every cose end' from Agra to Ajmere, which was his favourite abode, being a charming place of residence, and a convenient centre for operations in Rajputana. The great road from Bengal to the Punjab was also thus marked with *kos* posts.<sup>†</sup>

Great care seems to have been taken for the maintenance of the Badshahi Road and its long avenue of trees, which was fairly well preserved down to the close of the seventeenth century. It excited the admiration and attracted the special notice of most of the European travellers who visited India during the period. Sir Thos. Roe observes regarding a part of the road, from Agra to Lahore—"It is all a plain and the highway planted on both sides with trees like a delicate walk, it is one of the great works and wonders of the world."<sup>‡</sup> Peter Mundy observes in 1631—"The trees are distant one from the other about eight or nine ordinary steps and the ranks from side to side about forty. It is generally known

*Salem District Gazetteer*, Vol. I, Part 3, p. 224.

*Memoirs of Daulat Khan*, 111, p. 162.

\* *Pinch. Persber. IV, 41*. See also *Geog. Encyc.* 2.

† *Baber. 284*. *Mughal. 104*.

‡ *R. & H. 637*.

that from Agra there are such ranks of trees which reach as far as Lahore.....and they say this doth to Patna, done by Jahangir, for the ease of travellers and for shade in hot weather."<sup>1</sup> Tavernier describes this continuous avenue of trees as 'very pleasant to the view,' and further states that "throughout India the greater part of the roads are like avenues of trees, and those which have not trees planted, have at every 500 paces small pieces of stone which the inhabitants of the nearest villages are bound to whiten from time to time, so that the letter carriers can distinguish the road on dark and rainy nights."<sup>2</sup>

The highways as well as the city streets were in the main *kuccha*, i.e., they were not paved either with bricks or stones, although there are a few scattered evidences that there were some which were well-paved.<sup>3</sup> Pietro della Valle evinced great disgust that the streets of such a 'goodly and great a city' as Ahmadabad, although large, fair, and straight, were not well-paved, and were "so dusty that there is almost no going a foot, because the foot sinks very deep in the ground with great difficulty, and the going on horse-back, or in a coach is likewise very troublesome in regard of the dust."<sup>4</sup> The rich and beautiful city of Golconda is, according to Tavernier, "well built and well opened out, and there are many large fine streets in it, but not being paved—any more than are those of all the other towns of Persia and India—they are full of sand and dust."<sup>5</sup>

<sup>1</sup> Mundy, II, 59-64.

<sup>2</sup> Tavernier I, 56, 203. See also Dr East W. Lashbridge pp. 104-11, Bruce 204; Munzer, I, 164.

<sup>3</sup> The city streets seem to have been generally fair and clean. Cambay had "very good streets and squares" according to Barbara, p. 64. The streets of Martaban, Pago, etc. "the fairest that I have seen," Frederick Parker X, 21. The kingdom of Golconda is "lined with good and clean roads a matter of great resort for all travellers who ought to give it honour and praise being what it is a desert." Bruce 117. Lahore has streets "fair and well paved" Flora Parker IV. Besides the "paved streets, but narrow and crooked," Mundy, II, 622. "These streets are paved" — of lime, I, 62, II, 191. The highway for a league or two near Rajmahal is "paved with brick to the town" Bowring, 149 n. 2.

<sup>4</sup> Della Valle, I, 94.

<sup>5</sup> Tavernier, I, 102.

The roads were at places so bad and worn out that four 'peons' or 'soldiers' were often employed by owners of valuable merchandise to accompany a cart and keep it from overturning by means of ropes in bad places. The process is thus described by Tavernier: "Two of them walk on each side of the waggon, over which there are two cords passed, and the four ends are held by the soldiers so that if the waggon threatens to upset in a bad place, the two soldiers who are on the opposite side hold the cords tight, and prevent it turning over." During the rains, the condition of the roads was necessarily still worse, as they became in many parts full of mire and rendered cart traffic well-nigh impracticable.

In the days of Peter Mundy's travel, the long road from Agra to Patna seems, however, to have been preserved in a fairly satisfactory state of repair, as in his long journey between the two towns during the period of the monsoons (Aug 1632) he mentions only a few places where he experienced difficulty in passing with his laden waggons. It was only near Rumpur Aphor and Baraut, within about fifty miles of Allahabad, that he had any considerable difficulty due to deep mire so that "ever and anon one cart or other would be fast," and the car men would be employed "in saving some carts from overturning and hauling others out of some hole where they stuck fast — On the whole, as observes Elphinstone, 'from the earliest Hindu times to the decline of the Mogul empire, the great roads were the objects of much attention to the government,' and it may be fairly presumed that not merely pack animals but bullock carts were in common use for the transport of goods and merchandise over a great part of the country.

Tavernier, L. A. See also Thesiger, W. Lowell, I.

Mundy, II. 96. 111

History of India (18th ed.), p. 129

*Bridges.*

For a continuous and through land communication it is essential that rivers and streams should be spanned with bridges. We have already seen how for the removal of these natural barriers to land traffic, the authors of the *Sukra cycle* enjoined on the kings the duty of constructing and maintaining bridges over rivers, in the interests of the state's commerce. We shall here bring together a few evidences which go to indicate that the Indians, who had, as early as the days of Asoka, attained a considerable amount of knowledge and technical skill in architectural engineering, were not slow to apply their experience for the purposes of bridge construction to facilitate communication by land.

In the eleventh century, a massive stone bridge of eighteen arches, over 200 feet of waterway, was built near Cuttack by Matsya Kesari (1034-60 A.D.) of the famous Kesari or Lion Dynasty of Orissa.<sup>1</sup> Numerous other bridges were built in the various parts of Orissa between the 11th and the 13th century A.D. The Athara-nala bridge at Puri, 290 ft. long, and "the finest in the province of those still in use," was built in the 11th or the 13th century A.D. It is still one of the objects of interest for the visitors to Puri. There is another beautiful bridge at Jajpur, which is "probably older, and certainly more picturesque" than the Athara-nala at Puri. Regarding this Hindu bridge, observes Fergusson: "It may be unscientific but many of these old bridges are standing and in use while many of those we have constructed out of the ruins of the temples and palaces have been swept away as if a curse were upon them."<sup>2</sup> Bridges were

<sup>1</sup> Hunter, *Orissa*, Vol. I, p. 276.

<sup>2</sup> Fergusson, *History of Indian Architecture*, 2nd Edition, A. S. Barnes & Reuben, 1st edn., 1910, Vol. II, p. 112, see illustration of Jajpur bridge. Hayyadha Lal Mitter, *Archaeology of Orissa*, Vol. II, p. 114. Sir George Treacher, "An Account of Geographical Statistics and Historical of Orissa Proprietary of Cuttack," *Archaeological Researches*, Vol. XV, p. 337, see Plate V3 for illustration of Athara-nala bridge.

also constructed by the Sen Kings of Bengal before the advent of the Muhammadans into the province. One of such bridges near Rampal, Dacca, is 173 ft long, and is known as the *Ballal Pat* (Ballal bridge) after the name of its builder, Raja Ballal Sen. It is now in ruins.<sup>1</sup> In the twelfth century, General Deva-Senapati by command of King Parakrama Bahu I (1164-97 A.D.) built over the river Kalavapi in Ceylon "a bridge of timber, two hundred cubits in length and twenty cubits in breadth fastened and made exceeding strong with plates of iron and pegs, a bridge of exceeding great beauty, that could be passed by elephants and horses and chariots and footmen."<sup>2</sup>

In his expedition from Gaur to Tibet (cir 1200 A.D.), Bakhtiyar Khilji marched to "a place where from old times a bridge had stood over the water having about twenty arches of stone."<sup>3</sup> This great stone bridge which was on the Brahmaputra near Gauhaty was built in the Brahmanical times, i.e., before the ninth century A.D., and was found to be "in a good state of preservation" by Major Hannay in the middle of the nineteenth century.<sup>4</sup>

Remains of an interesting stone bridge have been found in the Sila Sindurighopa maura, "said to have been constructed by Bakhtiyar Khilji when he invaded Assam at the beginning of the thirteenth century."<sup>5</sup> There is mention in the *Tabakat-i-Azam* (cir 1250 A.D.) of a great *puk* or embankment lying between Lakhnati and Lakhnur (?), a distance of ten days' journey, to make the roads passable during the rains when the country is inundated.<sup>6</sup> As has been already observed, Emperor Firoz Tughlak (1351-88) is said to have built 150 bridges. The Gambhir river is crossed at Chitor by a "solid

<sup>1</sup> *List of Ancient Monuments in Bengal* (Calcutta 1890), pp. 218-20.

<sup>2</sup> A. K. Coomaraswamy, *Medieval Buddhist Art*, p. 134.

<sup>3</sup> Elliot, *History of India*, II, 563.

<sup>4</sup> J. A. S. B., Vol. XX (1861), pp. 291 ff.; see Illustration.

<sup>5</sup> *Imperial Gazetteer*, Vol. VI, p. 30.

<sup>6</sup> Sir H. H. Steward describes Lakhnur with Nagpur in *British History of Bengal*, p. 68.

bridge of grey limestone with ten arches said to have been built in the fourteenth century. The *Imperial Gazetteer* mentions two old stone bridges in the South, one at Mudbidri, South Canara, and the other at Blatkal, once a flourishing centre of trade in North Canara, said to have been built by the Jain princess Channubhairava Devi (cir. 1450 A.D.).<sup>1</sup> Ruins of an old stone bridge have been found near Vijaynagar, the famous capital of the ancient Hindu kingdom of the same name.<sup>2</sup> At Jaunpur, the Gumti is crossed by a "magnificent" stone bridge, 654 feet long, built by Munim Khan, governor of Akbar, at the end of the sixteenth century, said to have been "completed in three years, at an expense of thirty lacs of rupees."<sup>3</sup> At Chaparghat, the Songar is spanned by a fine stone bridge of five arches.<sup>4</sup> A little below, the river Rind was crossed by a "considerable" bridge of stone at Kora Khas.<sup>5</sup> The Ahom prince Pratap Singh (1603-41 A.D.) built a stone bridge over the Darika river, and many other wooden bridges throughout his kingdom.<sup>6</sup> Masonry bridges were also constructed by Rudra Singh (1696-1714) over the Nambing and Dimau rivers. He is also said to have constructed many roads and established an extensive trade with Tibet.<sup>7</sup>

Emperor Jahangir (1605-27) crossed the Mahi river in Malwa by a bridge, "prepared in only three days." About the construction and strength of this bridge, *Itakat-i-Jahangiri* gives the following interesting information — "Although in this river there were no boats fit for building bridges, and the water was very deep and flowed forcibly, yet through the good management of Abul Hasan Mir Bakht, a

<sup>1</sup> *Imperial Gazetteer*, Vol. X, p. 294.

<sup>2</sup> *Imperial Gazetteer*, VIII, 90, XVIII, 10.

<sup>3</sup> *Geographical History of the Deccan*, Vol. I, p. 91.

<sup>4</sup> *Imperial Gazetteer*, XII and XIX, 42. See also Stewart, *History of Bengal*, p. 162 and *Travels of Lord Clive* (1802-03 A.D.), Vol. I, p. 124.

<sup>5</sup> Mundy, II, 89, H. W. F. Gossner, VI, 206.

<sup>6</sup> *Ibid.* II, 41.

<sup>7</sup> Guha, *History of Assam*, p. 217.

<sup>8</sup> *Ibid.*, p. 176.

very strong bridge of 140 yards in length and four yards in breadth was prepared in only three days. By way of testing its strength I ordered one of my largest elephants with three other female elephants to be taken over it. The bridge was so strong that the weight of the mountain-like elephants did not shake it in the least."

Finch speaks of a stone bridge of eleven arches, a short way from Delhi, now known as the "*Bara put*" or the "Great Bridge," built about 1012 A.D. In the city of Ahmedabad, Delta Valley (1623 A.D.) saw "a handsome bridge of many arches very well built, upon which two Indian coaches may go abreast."

In Kashmir, boat bridges were in use from very early times, the first "Great Bridge" on the Vitasta being built by Pravarisena II in the second century A.D.<sup>1</sup> The construction of these boat bridges is thus described by Bernier, who accompanied the camp of Aurangzeb in its journey to Kashmir: "The army crossed them [the rivers] by means of two bridges of boats, constructed with tolerable skill, and placed between two or three hundred paces apart. Earth and straw mingled together are thrown upon the planking forming the footway to prevent the cattle from slipping." Over these bridges crossed, in Bernier's estimation, between three and four hundred thousand persons, besides some two hundred and fifty thousand animals, comprising horses, mules, elephants, camels and oxen, with goods and baggage. Kashmir had also numerous permanent wooden bridges, "whose peculiar construction has attracted the notice of all modern travellers," none of which may however be traced to a date earlier than the Zindu Kadal, one of the seven bridges

<sup>1</sup> *Elliott*, VI, 262.

<sup>2</sup> *Archaeological Survey of India*, Vol. I, p. 222.

<sup>3</sup> *P. Delta Valley*, 1, 102.

<sup>4</sup> *Stone, Rayarampura*, Vol. I, p. 113.

<sup>5</sup> *Bernier*, ed. Constable and Smith, I, 2.

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in Srinagar, built in the fifteenth century A.D.<sup>2</sup> Bernier notices two wooden bridges on the Jhelum in Srinagar.<sup>3</sup>

There were several bridges at or near Dacca built in the time of the Muhammadans. Of these the Pagla Pul, "a fine brick bridge," built by Mir Jumla over the Pagla river (cir. 1660 A.D.), the brick bridge half a kos below on the Cadamtali, and the Fungy Bridge, "a solid structure of masonry and stone work" over the Balu creek, were the principal, "especially the first of these, which is much admired as a ruin."<sup>4</sup>

There are two great bridges over the Sindh river at Narwar, once a flourishing city near Gwalior, each of which originally had some twenty-two arches and 1,000 feet of roadway. These were built about 1660 A.D.<sup>5</sup> At Mania, near Dholpur, Tavernier saw a "very long bridge built of cut stone," over the Jajou, known as the Jajou ka Pul.<sup>6</sup> Tavernier also notices on the Musi river, at Bhagunagar or Goleonda, "a grand stone bridge which is scarcely less beautiful than the Pont Neuf at Paris."<sup>7</sup> Fryer refers to two long wooden bridges at Masulipatam. These were built over a sandy marsh—one a mile long, and the other half a mile long, at the charge of the King of Goleonda. Each of these had a gate-house, and a strong watch at the beginning, next the town.<sup>8</sup> Fryer also alludes to a bridge of thirty-six arches of stone at Goa.<sup>9</sup> During the latter part of the seventeenth and eighteenth centuries, several bridges were also constructed by the English East India Company in and around Madras.<sup>10</sup> There was also a "fine stone bridge" built, at

<sup>2</sup> Stein, I, 108 n.

<sup>3</sup> Bernier, p. 298.

<sup>4</sup> Tavernier, I, 164. Tarki, T, Geography and Gazetteer of Bengal, p. 97. Please get摘要 of the History and Gazetteer of the Province of Bengal, 1861, p. 101.

<sup>5</sup> Arch. Surv. Ind., II, 225-27.

<sup>6</sup> Tavernier, I, 96.

<sup>7</sup> Ibid. I, 153.

Fryer, I, 21. See also Bawdy, p. 82.

<sup>8</sup> Ibid. II, 9.

<sup>9</sup> Testimony of O. L. Maitland 1940-1941—Indian Record Series, Vol. II, pp. 202-04.

Mohan town in the modern United Provinces, by Mahamja Nawal Rai, Minister of the Nawab Safdar Jang, in the eighteenth century.<sup>1</sup>

The foregoing references to bridges in the various parts of the country throughout the mediaeval period are sufficient to indicate that the people of Mediaeval India were not unmindful of the advantages of easy communication, and it may not probably be wrong to suppose that, wherever practicable and necessary, they directed their attention to removing the difficulties in land transport. The undertaking of such costly enterprises, no doubt, depended, in a great measure, where military considerations were not paramount, on the volume of traffic. And though we have not sufficient data on the nature and amount of the bridge tolls in the different localities, the opinion may perhaps be hazarded that bridges were usually constructed at convenient centres of heavy traffic, to facilitate the exchange of commodities. Or, might it have been merely to further the general interests of the realm? In places where bridges did not exist, boats were generally used for crossing the rivers; and these were available in sufficient numbers in almost all the important *ghats* or river stations.

#### *Rest Houses.*

*Sarais* or inns were also one of the necessary prerequisites of inland travel in the mediaeval days, when several weeks were occupied in covering a distance of only a few hundred miles. Necessary as abodes of shelter and rest at convenient distances, where merchants and travellers could break their journeys, they were made indispensable by the comparative insecurity of the times as fortified places of refuge. And in India, from very early times, princes as well

as private individuals built *guris* or *chaubties* throughout the land to meet the needs of the travelling public. The building of these rest-houses like the excavation of tanks and wells, and the erection of hospitals, was considered to be an act of religious duty among the Hindus, and it is interesting to observe in this connection that a large number of sarais were built in those days by the munificence of the predecessors of the present Marwari community, who have now been rightly famed for their generous benefactions toward the establishment of *dharma-galas* in almost all the important centres of religious sanctity. The names of sarais, like Sarai Ajitmal, Sarai Jagidas, Sarai Mulchand, Mulukchand, Badridas, etc.—as noticed by European travellers and by the author of *Chahar Gulshan* (cir. 1720 A.D.)—clearly point to their Jain origin.

The necessity for the maintenance of sarais or rest-houses at convenient distances for the convenience and safety of travellers seems to have been clearly recognised at least as early as the days of the Mauryas, if not earlier.<sup>1</sup> Regarding the construction of sarais and the principles of their administration, the *Sokramti* observes: "The sarais or rest-houses for travellers are to be built strong and provided with tanks. Between every two *gramas* a sarai is to be built. It is to be daily cleared and well-governed by the rulers of *gramas*. The master of the sarai is to ask the following questions of the travellers coming to it. Whence are you coming, and why? Whither are you going? Speak truly. Are you or are you not with attendants? Have you any arms in your possession and have you any conveyances with you? What is your caste? What are your family and name? Where is your permanent residence? After asking these questions the master of the rest-house should note them down and in the evening, having taken away the traveller's arms, should

advise him—“Take sleep carefully.” Having counted the number of men in the house and shut its gate, he should have it watched by the guards working for three hours each, and awaken the men in the morning. He should give back the arms, count the men and then let them off by opening the gate and accompany them up to the boundary line.” These injunctions give us some idea about the general conditions of the times, and the necessity of taking due precautions for the safety of the travellers, as well as of the general public against undesirable new-comers.

The first interesting reference to sarais during the period under review, as has been already observed, is in connection with the public works of Firoz Tughlak, who is said, among other works of public utility, to have constructed some 100 sarais in the different parts of his empire. About hundred years later (cir. 1470 A.D.), the Russian traveller Nikitin observes—“In the land of India it is the custom for foreign traders to stop at inns”<sup>1</sup>. In fact, this was the custom with native traders as well, which Nikitin probably omits to mention. Coming to cir. 1540 A.D., about Sher Shah, the greatest of the Pathan rulers, we are told by Abdes Khan, the historian, that “Altogether he built 1,700 sarais on various roads; and in every sarai he built separate lodgings, both for Hindus and Mosalmans, and at the gate of every sarai he had placed pots full of water, that any one might drink, and in every sarai he settled Brahmins for the entertainment of Hindus, to provide hot and cold water, and beds and food, and grain for their horses, and it was a rule in these sarais, that whoever entered them received provision suitable to his rank, and food and litter for his cattle from Government. In every sarai two horses were kept, that they might quickly carry news.” The sarais were usually made of brick to

<sup>1</sup> From the Sher Shah Suri’s Nizam-i-Dawat, see also H. C. E. Ward, “The Sarais of the Tughlaq and Sayyid Dynasties,” *Journal of the Royal Asiatic Society*, 1907, p. 102.

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make them strong and safe; and several watchmen were appointed to keep guard over them. The entire sarai establishment was maintained from the land near the sarai. Akbar, Jahangir, and the other Mogul Emperors are also said to have built sarais for the comfort and safety of travellers and merchants throughout their dominions.<sup>1</sup>

Sarais or chaultries, though perhaps not so numerous as in the north, were not uncommon in the South. They were specially prominent in the important centres of trade activity. Pyrard de Laval speaks of inns at Calicut, where "food and lodging have their price."<sup>2</sup> Tavernier mentions several beautiful sarais at Aurangabad, Golconda, and Tenur, "having two storeys, where there are large halls and chambers, which are cool."<sup>3</sup> There are small chambers destined for poor travellers, and every day towards evening they receive a dole of bread, rice or vegetables already cooked; and to the idolaters, who eat nothing which has been prepared by others, they give flour to make bread and a little butter.<sup>4</sup> Bowrey also speaks of the great relief and convenience which all travellers had in the Kingdom of Golconda, which maintained, at the King's expense, small houses at every four or five miles to serve milk or cookey (water boiled with rice) to thirsty travellers, and sarais at every twelve miles "for the convenience of lodgings, for any comers or goers, the first come first served, without any respect of persons."<sup>5</sup> A Mysore inscription (AK 82) tells us that in 1234 A.D. in the Hoysala country groves were

in the Hindus by the Government, and Kazi Khan who writes "There were establishments for giving cooked food or raw victuals to every wayfarer. Musalmans and Hindus servants were employed for cooking food. Those employed for the Hindus were known as Juhara and Phetari." — Prof. K. Quailey, *The Shik*, p. 383.

<sup>1</sup> *Arch. I. 221; 222, VI. 294*

<sup>2</sup> *Pyrard I. 41*

<sup>3</sup> *Tavernier I. 140, 142, 173*. Of these sarais a large one of which he found in ruins at Cuttack in Upper India observes Heber. These sarais are generally in the surroundings of provincial towns and some were a ancient times already enlarged and the latest supplies of grain, milk and grass gratis to the traveller as well as shelter. *Journ. of Ind. & Asiat. (1824-25), Vol. II, pp. 20-21*

<sup>4</sup> *Bowrey, p. 117*

planted from *yâjma* to *yâjma* (about nine miles) for the rest of travellers." Of the Mysore King (Doddia) Deva Raya (1639-72 A.D.), it is said (kg 37) that he made wells, ponds, and tanks, with *chattras* or inns from road to road. He is also said (yd 54) to have established *chattras* in every village for the distribution of food, as well as (Sr 14) at every *yâjma* on all the roads from Sakkarepattana (Kadur District) in the west to Selega-pura (Salem) in the east, and from Chiknayakamballi (Tumkûr District) in the north to Dharmapuri (Coimbatore District) in the south.<sup>1</sup> Even as late as 1772, James Forbes, a servant of the English East India Company, writes, "The *sarai* or principal caravansary at Surat, was much neglected—most of the eastern cities contain one at least, for the reception of strangers; smaller places, called *choultries*, are erected by charitable persons, or munificent princes, in forests, plains, and deserts, for the accommodation of travellers. Near them is generally a well, and a cistern for the cattle; a brahmin or fakir often resides there to furnish the pilgrim with food, and the few necessities he may stand in need of."<sup>2</sup>

That *sarais* were also plentiful and well maintained in Northern India at least to the close of the 17th century is sufficiently clear from the accounts of contemporary European travellers, like Finch, Mundy, Bernier, Manucci, and others. Regarding the Agra—Lahore road, observes De Laet in 1631 A.D., "At interval of five or six coss there are *Sarays* built either by the king or by some of the nobles."<sup>3</sup> Manucci,

<sup>1</sup> *Rise, Mysore and Coorg From the Jesuit Missions* (pp. 178-79).

<sup>2</sup> *Forbes, Oriental Memoirs* V. I, 1, p. 26. See also *Sarais* in *the works* of *De Laet*.  
"Formerly, when Surat was in a more flourishing condition than it is now, there used to stand here, which were always well maintained, as well as from the deserts, two large *Mahals*, or from certain revenues arising from what was paid by the travellers, who resorted to them. There are at present two, which however they are no longer buildings with galleries on the sides, and provided with little square rooms for the travellers past the night while their baggage and cattle remain in the enclosure.—See *Surat the East India Vol. II*, p. 47."

<sup>3</sup> *Forbes IV* 268, *Cabot's Travels* 121-51.

who spent over half a century in India (1655 to 1717 A.D.), says that on every route throughout the Mogul Kingdom there were sarais which were like fortified places, and each of which might hold from 500 to 1,000 persons with their horses, camels and carts, and that the routes specially between Agra and Decca were much frequented, and were full of villages and sarais, food being good and cheap.<sup>1</sup> Some of these sarais were very beautiful and strong. Of the *sarai* at Chhaparghat, an important commercial mart in Upper India in those days, says Finch: "Here is one of the fairest sarais in India, like a goodly castle than an inn to lodge strangers able to lodge a thousand men."<sup>2</sup> Mundy says that this "fairest" of the sarais that he had yet seen "had four fair towers at the four corners, and two stately gates at coming in and going out, with a very high wall round about, full of battlements."<sup>3</sup> The *Nur Mahal Sarai* at Agra, observes Mundy, "is a very fair one, built by the old Queen Nur Mahal for the accommodation of travellers, in which may stand 500 horses, and there may conveniently lye 2 or 3,000 people, all of stone, not one piece of timber in it, the rooms all arched, each with a several copula."<sup>4</sup> Mundy further alludes to another very beautiful sarai at Patna, "the fairest sarai that I have yet seen, or I think is in India. It hath two fair courts, each having warehouses round about beneath, and rooms with galleries to lodge in aloft, a very stately entrance, lying by the river... These are usually in great cities, but the other sort of sarais are in all places."<sup>5</sup> Bowrey notices "one of the finest" chaultries or sarais at Hugly, a great centre of trade in those days.<sup>6</sup>

Bernier, who has little praise<sup>7</sup> for the eastern caravanserais, observes, in connection with the *Regum Sarai* at Delhi,

<sup>1</sup> M. de Bernier, p. 116. The first *Rai* was established on the river bank at Decca by the Great Mogul Akbar in 1605 A.D. in a later stage of his reign. <sup>2</sup> *Itinerarium Bengalense*, p. 106. <sup>3</sup> *Purchas, IV*, 68. <sup>4</sup> Mundy, II, 160.

<sup>5</sup> *Purchas, IV*, 68. <sup>6</sup> *Itinerarium Bengalense*, p. 106.

<sup>7</sup> *Purchas, IV*, 68.

<sup>8</sup> *Scriblerus, I*, p. 232.

built by Shah Jahan's eldest daughter "The *Karnanara* is in the form of a large square with arcades, like our *Place Royale*. Above the arcades runs a gallery all round the building into which open the same number of chambers as there are below. This place is the rendezvous of the rich *Persian*, *Uzbek*, and other foreign merchants, who in general may be accommodated with empty chambers, in which they remain with perfect security, the gate being closed at night. If in Paris we had a score of similar structures, distributed in different parts of the city, strangers on their first arrival would be less embarrassed than at present to find a safe and reasonable lodging. Such places would become warehouses for all kinds of merchandise, and the general resort of foreign merchants."

The Begum Sarai was no doubt one of the richest sarais in all India, which could thus elicit the unstinted admiration from the celebrated French traveller. The generality of the sarais could not indeed be so rich and comfortable. They appear, however, to have been on the whole fairly safe and commodious as places of shelter and refuge to the weary traveller and merchant. The following description from a very rare work, entitled *An East India Cottalma* by Christopher Farewell, an English factor, who came out to India in 1614, gives probably a fair estimate of the ordinary Indian sarai. It is "a spacious place made of purpose for all travellers, natives as else (for they have not the use of inns as in Christendom), with commodious warehouses round about, of one story, four square, in the manner of galleries, and under them dry walks and places to feed their couch-oxen, camels, elephants and horses, but in the middle all open, like our Exchange, it being supposed that every merchant, gentleman or nobleman hath his tent or couch to sleep in, if neither, they make the best shift they can, and for their provision they bring it with them, or buy it in the town."

*Nature and Extent of Land Transport.*

The bullock-carts and the pack-animals, principally the ox and the camel, were the chief means of land carriage in India before the days of mechanical transport. These traversed long distances in large companies. Sometimes *Cavilas* or caravans of as many as 10,000 and 20,000 animals were seen passing from Bengal to Agra, and from Agra to Surat, led by a specialised class of carriers known as the *Banjaras*. These Banjaras were a nomadic tribe of public carriers, continually moving from place to place with their women and children and household goods. They had their own oxen, some of them possessing as many as 100, while others had even more or fewer; and they all had a chief who acted as their prince.<sup>2</sup> They not only supplied the needs of the civil population, but were often employed to supply provisions to large armies in the field.<sup>3</sup> Some of them again were independent merchants who made their profits by buying to the cheap and selling in the dear market. They thus constituted an important element in the social organisation of India before the era of the rail-road, and were in many parts indispensable for purposes of land transport. The following interesting description regarding the Banjaras, is given by Mundy — "These Banjaras carry all their household along with them, as wives and children, continually driving from place to place. Their oxen are their own. They are sometimes hired by merchants, but most commonly they are the merchants themselves, buying of grain where it is cheap to be had, and carrying it to places where it is dearer, and from

<sup>2</sup> Their name is derived from the Banjari language or Banjara language. A misnomer? — Crook Tribes and Castes of N.W.P. and Oudh Vol. I p. 149

<sup>3</sup> December, 3, 1858.

\* There is an account in Muhammadan History in several articles in connection with Scindia's campaigns against Gwalior (1805 A.D.) *Ecc. V*, 100. It was these Banjaras whom who afforded such assistance to Lord Cornwallis in his war with Tipu Sultan in 1791 A.D. — See M.C. History of British India, Vol. V ch. IV

thence again relate themselves with any thing that will yield benefit in other places, as salt, sugar, butter, etc." Of these *Bijjaras* or 'Bijjarties,' who were not ousted from their hereditary occupation till long after the introduction of the railways, observes Malcolm<sup>1</sup>: "They live in tents every place where they pitch is their home, and that of their families. They come and go to different countries, as their services are required to supply armies and to carry on commerce. Their number in any one province rises or falls like an article in trade, according to the demand."

Some idea regarding the nature and extent of animal and cart transport in Mediaeval India may be obtained from the following consilences of testimony — Observes Roe—"I met in one day 10,000 bullocks in one troupe Inden with corn, and most days others, but less," near Burhanpur.<sup>2</sup> From Surat to Cambay, De la Valle travelled with a *Casta* which was "so great and the coaches so many, that in certain narrow places we were fain to stay a good while before we could go forwards, just as it happens in the streets of Naples and Rome at solemn processions."<sup>3</sup> Near RAMPUR Aphor on the Ganges, Mundy speaks of having met a *Tando* or camp of oxen, "in number 14,000, all Inden with grain, as wheat, rice, etc."<sup>4</sup> As each ox carried four great maunds, each maund being equivalent to sixteen gallons, the total quantity carried was 112,000 bushels, London measure. And many others were coming from the eastern parts, "all going for Agra, from whence it [the grain] is again carried to other places."<sup>5</sup> Two days later, near Shahzadpur, Mundy met another *Tando* of oxen, "in number 20,000 (as themselves said), Inden with sugar, of which there could not be less than

<sup>1</sup> Mundy, II, 95-96. See also Peter, I, 1-40.

<sup>2</sup> *Memor of Central India*, Vol. I, p. 1-2.

<sup>3</sup> R. 1-58.

<sup>4</sup> De la Valle, I, 63. In some cases, however, two or three days will all (caravans) have passed. — Peter, I, 10.

<sup>5</sup> Mundy, II, 95.

60,000 English hundred-weight, at 2½ hundred-weight to each ox."<sup>1</sup> Mundy also notices a peculiar contrivance, familiar to us down to the present day, the bamboo *banque*, "more steady than any other kind of invention that I know," in which the *Kokars* carried China and other brittle ware and water, travelling at the rate of twenty-five or thirty miles a day.<sup>2</sup> Regarding the transport by oxen, Tavernier remarks:—"They give an ox a load weighing 300 or 350 *terres*, and it is an astonishing sight to behold caravans numbering 10,000 or 12,000 oxen together, for the transport of rice, corn, and salt carrying rice to where corn only grows, and corn to where rice only grows, and salt to the places where there is none."<sup>3</sup> Thévenot also speaks of having met with caravans of above 1,000 oxen near Aurangabad coming from Agra laden with cloth.<sup>4</sup>

Camels were used as means of transport principally in Rajputana and in the caravan trade with Central and Western Asia. For internal transport they do not appear, however, to have been as prominent as oxen. Tavernier says that camels were used by the Banjars in caravans but rarely, they being "specially reserved to carry the baggage of the nobles."<sup>5</sup> They were also mostly used for purposes of military transport.

Merchants from the furthest parts of India, even from Bengal, carried on caravan trade with Bokhar, the great mart of trade in Bactria, where they took all kinds of cloth and brought wrought silks, red hides, slaves and horses.<sup>6</sup> Roe notices caravans yearly passing from Agra to Cambalu (Peking).<sup>7</sup> According to Richard Steel (1816 A.D.), "twelve or fourteen thousand camels laden" generally passed through Kandahar for Persia, and there was overland trade in spices

<sup>1</sup> Mundy, p. 94.

<sup>2</sup> MSS. A. 51. 116. Facsimile No. 19 N.

<sup>3</sup> Tavernier, I, 22.

<sup>4</sup> Thévenot, p. 72.

<sup>5</sup> Tavernier, I, 40.

<sup>6</sup> Jenkins (1858 A.D.)—Bullock II, 472.

<sup>7</sup> Roe, I, 97. The caravan occupied more than two years according to Terry, Persia, IX, 16.

from Masulipatam to Persia via Lahore. As observed by Bernier, caravans also passed to Tibet and China from Kashmir as well as Patna, importing chiefly musk, China wool, rhubarb, crystal, jade, wool, etc.<sup>2</sup> According to the *Khudainat*, a large amount of traffic was carried on at Bahraich a large town on the Saraja, where "from the northern mountains are brought many articles loaded on the backs of men, goats, and hill ponies . . . and at times there is a great and ceaseless crowd, merchants from all sides come here, make purchases, and gain profit."<sup>3</sup>

In caravans, which often consisted of both animals and carts, the carts did not ordinarily consist of more than one hundred or two hundred at the most.<sup>4</sup> In 1595, the Third Jesuit Mission went from Surat to Lahore with a large caravan comprising 400 camels, 100 horses, and 100 wagons, besides a large number of poor people on foot.<sup>5</sup> 200 camels and 100 carts formed Mundy's caravan in his journey from Agra to Surat for carrying indigo and salt-petre.<sup>6</sup> Carts were usually drawn by two oxen. But heavy wagons were drawn by teams of oxen, "yok'd eight, sometimes a dozen or sixteen times double."<sup>7</sup> Regarding caravan transport in India, Fryer observes: "Contrary to whatever we found in any place of Persia, where are neither carts coaches or wains. There we seldom meet any to turn us out of our way, here the roads are pestered with carphales of oxen, camels and buffaloes, with heavy wagons drawn by teams of oxen . . . bringing and carrying goods of all sorts."<sup>8</sup>

The Banjaras as well as the Cattias or caravans were usually armed — sometimes special guards were provided as the roads were often pestered with thieves and robbers.<sup>9</sup>

<sup>2</sup> Purchas, IV, 269.

<sup>3</sup> *Bahr-i-Sarai*, pp. 42-3, 27.

<sup>4</sup> *India of Ancegueda*, p. 22. See also *ibid.*, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 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'Peons' or 'soldiers' were always available to accompany caravans on payment of a small remuneration, about rupees four or five, a month. The insecurity of the way was, in certain places, so great that notwithstanding a great deal of vigilance and special watch, theft and robbery were often committed on the highways, and were thus a great hindrance to easy communication between the different parts of the land. There was besides a great handicap to inland traffic on account of the tolls and customs, levied at various centres in the different parts of the country. The abolition of the *tamgha* (inland tolls) and the *jazyah* (poll-tax on the Hindus) by Akbar in 1562 A.D. probably gave some impetus to inland traffic, but, on the whole, the customs barrier between the different parts of the country seems to have prevailed throughout the medieval period.<sup>1</sup>

From the accounts of some of the European travellers, we may gather the following interesting information regarding the cost and duration of land travel between certain parts of India during the 17th century. Between Agra and Surat, the principal outlet for the goods of the Mogul Empire, there were two main roads, the eastern by way of Gwalior, Sitonj, and Burhanpur, and the western by way of Ajmere, Pali (the chief commercial mart of Western Rajputana), and Ahmadabad. In Bernier's time, the Surat-Ahmadabad-Agra road was better than the direct road by Burhanpur and Gwalior; but it was more perilous on account of dangerous raids by outlaws.<sup>2</sup> In 1631, Mundy travelled from Surat to Agra via Burhanpur, a distance of about 396 kos or 561½ miles in 53 days, spending a considerable amount of time in observing things of note on the way.<sup>3</sup> When the journey was continuous, without much

<sup>1</sup> apprehension. Even contending armies allow them to pass and repass safely - a practice in great vogue at the period - a system of warfare in Europe - *Haber's Journey*, II, 444. <sup>2</sup> See also Mundy, II, 296, and Fosbroke, *Travels in India*, p. M. 162.

<sup>3</sup> See J. Dow, *Madrasas, India*.

<sup>1</sup> Bernier, p. 202.

<sup>2</sup> Mundy, II, Section VI.

intermission on the way, the distance could probably be covered in about 40 days. Bernier notes that wine was carried from Surat to Delhi in 40 days.<sup>1</sup> According to Tavernier, one could travel from Surat to Agra in a carriage in about 35 or 40 days.<sup>2</sup> It took from 30 to 40 days to travel between Agra and Patna, a distance of about 550 miles.<sup>3</sup> From the first English commercial mission from Agra to Patna under Hughes and Parker (1620-21 A.D.), we learn that the normal cost of land transport between the two places including the ordinary trade risks from robbery and damage by rain was from Rs. 1 $\frac{1}{2}$  to Rs. 2 $\frac{1}{2}$  per maund of 62 $\frac{1}{2}$  lb.<sup>4</sup>

The facilities of internal transport and communication in mediaeval India thus appear to have been, on the whole, fairly adequate, according to the necessities of the age, so that even the inland mart of Delhi could always remain full of provisions and other valuable articles of merchandise from various parts of the world. Regarding the bustle of commercial life and trade activity in the great bazaar at Delhi, we have the following interesting remarks in the *Akbar-nama* (1605 A.D.)—“In this bazaar, where all precious and rare things of every country, port and city and all wonderful articles can be had, are brought and sold at one place, the rubies of Badakhshan and sparkling pearls and sapphires, lustrous pearls of Orissa bright pearls, corals, and other lustrous jewels of sea and land, at another place various kinds of cloth, merchandise, weapons, foodstuff and drink, perfumes, and other articles which men require. At another place, many kinds of dry and fresh fruits of every country.

Elsewhere elephants of renown wind faced horses and swift sumpter camels, and other animals in thousands and thousands. Every day the bustle of the buying and selling of all commodities is great, and the crowd of buyers

<sup>1</sup> Bernier, p. 282.

<sup>2</sup> Mundy, II, App. D.

<sup>3</sup> Tavernier, I, 4.

<sup>4</sup> II

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and sellers is beyond limit or calculation, so much so, that you may here collect in one day all the royal articles suitable for the requirements of a kingdom; and the necessary outfit of a thousand soldiers can be got together in one hour, without the delay of preparation".

### *Means of Travel and the Manner of Travelling*

Nearly half a century back, there was little occasion for distant travel in India except on religious pilgrimage. People generally stayed near their own homes, living on the products of agriculture or some other minor handicrafts. Travel for service or employment was almost unknown. Whenever one wanted to move from one place to another, he either walked on foot, or rode on oxen, or travelled in carts and carriages, in the absence of facilities for water communication, when almost invariably boats were used. Various kinds of litters, *doolies*, *chowdories* and *palkis*, etc., were also used for land travel. The Sanskrit work, *Yukti-Kalpataru*, written by King Bhoja about the 11th century A.D., contains detailed descriptions of various kinds of litters, such as the *data*, the *chaturadol*, the *ashtadol*, and the *paryanka*. These litters had different sizes, and were known by distinct names, such as the *Rijana*, *Mangala*, *Kruva*, *Kshema*, *Mritu*, *Firo*, *Sinha*, etc. They were of two classes, covered and uncovered. Some of the *ashtadol* litters, which were carried by eight men, are said to have been as large as 5 cubits in length, 5 cubits in breadth, and 6 cubits in height.<sup>1</sup>

The Indian carriages, the precursors of the modern *ekka* and the *tonga*, as we have already seen, were drawn by oxen, which could run and gallop like horses, travelling at the rate of 12 or 15 leagues a day. There was "an abundance of

<sup>1</sup> *India of Avangash*, pp. 3-6.

<sup>2</sup> See *Yukti-Kalpataru*, edited by Pandit Jawahar Chandra Sastri (Calcutta, 1917), p. 216-22.

"coaches" in India, observes Della Valle, and "with these they not only go in cities, but also for the most part travel in the country." A coach with two oxen could be hired, as Tavernier informs us, for about a rupee a day, so that the whole journey from Surat to Agra, which occupied from 35 to 40 days, cost about Rs. 40 or 45. "From Surat to Golconda," further remarks Tavernier, "it is nearly the same distance and the same price, and it is in the same proportion throughout the whole of India." We also learn from Therenot, that the hire of an Indian coach was about 25*d* or half a crown a day<sup>1</sup>, and this amounted to about a rupee in those times. The rates for the hire of conveyances on the European model and horses in the year 1400, as it appears from an advertisement of one Mr. Dexter, a stable keeper in Calcutta, were the following:—

		Per Day	Per Month
A coach and four	Rs.	24	300
A post chaise and pair	"	16	200
A pair of horses	"	10	130
Buggy and horse	"	5	100 <sup>2</sup>

Palanquins *dolma*, and other kinds of litters were also much used for travel, not only in cities, but for distant journeys. "This mode of carriage," remarks Pietro della Valle, "is very usual in India, not only in cities, but also in journeys which are of sufficient length."<sup>3</sup> The *patal-kina* or palanquin of the European travellers is probably the same as Abul Fazl's *sukhozana*, which was "conveniently adapted for sitting in, lying at full length or sleeping during travel."<sup>4</sup> It was not like the palanquin of to-day, but

<sup>1</sup> *ibid.* I. 21. — *also Tavernier*, I. 44.

<sup>2</sup> *Tavernier*, I. 46.

<sup>3</sup> *Therenot*, p. 53.

<sup>4</sup> *The Good Old Days, etc.*, Vol. I, p. 159.

*Patna J. & S. I. 183 A. 16 p. 11.*

<sup>5</sup> *Abul Fazl*, II, 122. They were "the most convenient & comfortable conveyances in India, according to Pietro della Valle, Vol. I, p. 159."

something similar to the modern *laujam*, or to the litter known as the *mancheel* (*manehal*), in the Madras Presidency.<sup>1</sup> It was usually carried by four men, but for distant journeys eight or twelve men were employed for relieving one another. Then, as now, the *Kabars* carried the palanquin, and they walked "so evenly that the man inside is not inconvenienced by any jolting."<sup>2</sup> As observes Tavernier, "they travel in this way faster than our chairmen in Paris, and with an easier pace, being trained to the trade from an early age", and they could thus travel up to 13 or 14 leagues a day.<sup>3</sup> The pay of the palanquin bearer was Rs. 4 a month "for everything," up to Rs. 5, when the journey was long, lasting for more than 60 days.<sup>4</sup> Palanquin travel, though more comfortable, was thus more expensive than travel by the carriage, and it was generally resorted to only by the wealthier members of society. The palanquin and the bearer formed a regular establishment with many European gentlemen and other great people for land travel in India till the opening of the railways. In the latter part of the 18th century, the Orissa bearers in Calcutta, we are told by *The Good old Days of Hon'ble John Company*, made large sums of money in their business, so that in some years they could carry to their homes as much as three *lakhs* of rupees.<sup>5</sup> Considering the average income of the bearers to be about Rs. 60 per man per annum, and supposing that each man could save some Rs. 30 per year, there must have been some 10,000 bearers in Calcutta to carry

<sup>1</sup> *Barry*, p. 56; *Illustrations*; *Moody*, II, Illustration No. 13.

<sup>2</sup> *Ain*, I, 224.

<sup>3</sup> *Tavernier*, I, 46. Also R. says: "They will carry one 60 m. m. per diem with no great difficulty," p. 67.

<sup>4</sup> *Tavernier*, I, 46. Common bearers get from 120 to 150/- per month. *e. R. & J.* I, 224. They are "rewarded with a very small reward." *Pala*, Table I, 188 to 190. The pay of the *laujam* bearer in Calcutta was Rs. 1. 8s. a day. *The G. & O. D. Days*, vol. II, 20.

<sup>5</sup> *The G. & O. D. Days*, vol. II, 20. See also *I. M. S.* 523.

Rupees three lakhs to their homes. And if we may suppose that there were some 5 men per palanquin, there were about 1,200 palanquins in Calcutta toward the close of the 18th century. The rates of travelling by *palki-dak* in 1796, as it appears from the Post-Master-General's notification, were—

" From Calcutta to Benares 8a(Sicca) Rs 500  
 From Calcutta to Patna " " " " 400

And from the above to the intermediate stations at the rate of one rupee two annas per mile or two rupees four annas per coss." The *palki* and the *chandol* were also the principal means of conveyance for the great ladies of the court, who sometimes also travelled in the *mukdenber*, a kind of comfortable litter, on the elephants back. Elephants with mukdembars or *hanas*, similar to the modern *howdahs*, were also used for distant travels by kings and princes. The Great Mogul, according to Bernier, most commonly travelled in the *takht-i-rangan*, or *singham*, which was carried on men's shoulders.<sup>2</sup>

In Rajputana, people rode on camels which went a great pace, 70 ordinary *kos* a day. Horses, as has been mentioned above, seem to have been scarcely used either for riding or for drawing carriages. Tavernier, however, remarks that in the territories lying between Goleonda and Cape Comorin there were no wagons, and that only oxen and pack-horses were used for the conveyance of men, and for the transport of goods and merchandise. He further

\* The Grand Old Boys, etc.

2. 131 Examples of the use of the word *serve* as a travelling sheep etc. etc.

observes that in the absence of carriages, one has, in those parts, "the convenience of much larger palanquins than in the rest of India; for one is carried much more easily, more quickly, and at less cost."<sup>1</sup>

Such were the methods of land travel in mediæval India, and they were probably as good as any that could appropriately be devised in that age. It may be interesting to observe in this connection that the manner of travelling in India during that period was considered by the great French traveller, Tavernier, to be "not less convenient than all that they have been able to invent in order that one may be carried in comfort either in France or in Italy," the most civilised countries of Europe in those days.<sup>2</sup>

The distant pilgrimages, that have been from time immemorial one of the common religious practices of the Hindus, were made in these mediæval 'conveyances' in the pre-railroad period. It may be interesting at the present day, to learn how hundreds, and even thousands of men, women, and children travelled in large companies, in those times, to the numerous holy places, scattered throughout the length and breadth of India. "These pilgrimages," remarks Tavernier, "are not made, as in Europe, one by one, or two by two, but the population of a town or of several villages assemble in order to travel together in company . . . Each one travels according to his station and means, some in palanquins or litters, others in carriages; and the poor, some on foot and others on oxen, the mother carrying her child, and the father the cooking utensils."<sup>3</sup> We may here briefly note some of the great pilgrimages, referred to by Mundy and Tavernier during the 17th

<sup>1</sup> Tavernier, p. 176. About a century and a quarter earlier according to Fermino Nunzi (c. 1650 A.D.), palanquins were used by men of rank only in the kingdom of Vijayanagar. There are always at the court says Nunzi, twenty thousand litters and palanquins."—Boswell, *A Forgotten Empire*, p. 222.

<sup>2</sup> Tavernier, I, 20.

Tavernier II, 264-65.

century. In his return journey from Patna to Agra in 1631, Peter Mundy found near Kimpur Aphor a 'Zang' (Sang) of pilgrims, about 2,000 in number, going to Triveni and Kasi. They were coming from Kathiawar in the modern Bombay Presidency. The next day, Mundy refers to another similar *Zang* at Hithgion. Since his departure from Patna, Mundy speaks of having met no less than 100,000 people going on pilgrimage to Triveni and Kasi from various parts of the country. In the year 1652, Tavernier speaks of having met near Emedipata (Vemulpeta) in the modern Madras Presidency, "more than 4,000 persons, both men and women, and more than twenty palanquins, each of which contained an idol," going on a pilgrimage from Burhanpur and its neighbourhood to visit the great Ram Ram at Tirupati, in the district of North Arcot.<sup>1</sup> The next year, he describes meeting at Dindigul a similar procession of more than 2,000 persons, including men, women, and children, on their way to Tripatty pagoda from Thatta in Sind.<sup>2</sup> These evidences of long pilgrimages by large numbers of the Hindu population are instructive in showing that, despite the great extent of the country and the absence of the modern improved facilities of transport, distant journeys were not uncommon in medieval India, amongst others, for religious purposes.

#### *Internal Security.*

Security of life and property is one of the essential conditions for the successful prosecution of industry and commerce. The farmer will hardly grow corn and the manufacturer, finished articles, unless they can feel a reasonable amount of certainty that they will not be robbed of the fruits of their toil, and commerce will hardly thrive unless the main-

routes of traffic are well protected. A flourishing state of trade and industry in a country can thus be taken to be a fair index to the maintenance of internal law and order, without which the peaceful operations of life would indeed stand paralysed. No one could however expect to find in the mediaeval days, whether in India or in any other part of the world, the elaborate police regulations of modern times, or the amount of security that we now enjoy. The physical difficulty of enforcing law and order, in spite of the best wishes of the Government, were then, indeed, almost insuperable, specially in a vast country like India, which was filled with impenetrable hills and forests over a considerable portion of her extensive area. Besides, the means of communication and the manner of transmitting intelligence were not, in those times, all that could be desired, from the modern standpoint, for a quick and effective method of dealing with the problem of internal disorder. We have thus to bear in mind the shortcomings of the period for a judicious appreciation of the nature and extent of security that prevailed in mediaeval India.

The prosperous state of India, with its numerous thriving centres of trade and industry and seaport towns, before the predominance of the English East India Company in the land, lends us to think that, in normal times, there was reasonable security for life and property throughout the country. The duty of maintaining internal peace and order rested mainly with the watchmen and the heads of villages, the *mukaddams*, or the zamindars. "The head of the village," we find in the *Sukraniti*, "like the father and the mother, protects the people from aggressors, thieves and also from officers." The Hindu Kingdom of Vijaynagar in the South (1336-1565 A.D.) had developed a 'remarkably good' system of administration, and afforded adequate security to life and

property, so that it could become one of the wealthiest kingdoms in mediaeval India. In this connection, Abd-er-Razzak, the ambassador from Shah Rukh to the Court of Vijaynagar (1442 A.D.), observes: "Security and justice are so firmly established in this city that the most wealthy merchants bring thither from maritime countries considerable cargoes, which they unload, and unhesitatingly send into the markets and the bazaars, without thinking in the meantime of any necessity of checking the account or of keeping watch over the goods."<sup>1</sup> The Bolognese traveller Varthema (cir 1505 A.D.) also testifies to the great security and justice that prevailed in Vijaynagar, and her consequent prosperity. "In this kingdom," says he, "you can go everywhere in safety." The foregoing testimony regarding internal security in Vijaynagar is further corroborated by the Portuguese traveller Nuñez, who observes (cir 1535 A.D.): "If he complains that he was robbed in such and such a province and in such and such a road, the King sends immediately for the captain of that province, even though he be at court, and the captain may be seized and his property taken if he does not catch the thief. In the same way, the chief bailli is obliged to give an account of the robberies in the capital, and in consequence very few thefts take place, and even if some are committed, you give some little present and description of the man who stole from you, and they will soon know by the agency of the wizards whether the thief be in the city or not, for there are very powerful wizards in this country. Thus there are very few thieves in the land."<sup>2</sup> The just and efficient system of administration

<sup>1</sup> *India in the Fifteenth Century*, p. 14.

<sup>2</sup> *Varthema*, pp. 100, 147. The statement of Nuñez on the basis of his own observations of general administration from the earliest times of the Empire is as follows:— "Justice is a natural law among the Indians. They have no written law, but the people there observe it. The king has no power to punish them. He only punishes those that visitors to their country have complained of. The people there are good, and the people there is plenty and no poverty. Diverses kinds of fruits grow there."

<sup>3</sup> *Bowall, A Forgotten Empire*, p. 5.

in Vijayanagar seems to have been well maintained long after the downfall of the Hindu Power in 1565 A.D.<sup>1</sup> Under its native rulers, the Kingdom of Gujarat, as it appears from the testimony of Barbosa (c. 1515 A.D.), maintained adequate security and order within its boundaries. "The people of this country," observes Barbosa, "are kept in very good order, and governed with much justice and good treatment." Rowley is full of praise for the great safety of travel in Golconda, and its good and clean roads. There was little theft and robbery in the kingdom, and if any one was robbed, "a thing less common in this kingdom than any other," he was compensated for the loss by the Government.<sup>2</sup>

Of the state of internal security in Northern India, we know very little till we come to the Mogul period. In describing the Rajput civilization in Northern India during the 11th and the 12th centuries A.D., J. Kennedy observes, "Public and private wars were the universal fashion. But despite these wars, and the jealousy with which foreigners were regarded, there was considerable communication between the different parts of the country. Commerce flourished, poets and pundits went from court to court, flowers from Kashmir and water from the Ganges are said to have been duly offered at the shrine of Somnath."<sup>3</sup> During Pathan rule, Ghiyasuddin Balban (1266-87 A.D.), one of the ablest of the Pathan rulers, is said to have cleared many jungles and suppressed brigandage. In 1341, however, Ibn Batuta speaks of travelling being unsafe in India.<sup>4</sup>

A benevolent administrator in a great many ways, Sher Shah (1540-45) was probably the first Muhammadan ruler in Hindustan to afford adequate security to life and property. He "directed his governors and amirs to compel the people to treat merchants and travellers well in every way, and

<sup>1</sup> See Pyne, I, 400-407.

<sup>2</sup> Barbosa, p. 51.

<sup>3</sup> Rowley, 117 f.

<sup>4</sup> *Imperial Gazetteer*, Vol. II, p. 810.

<sup>5</sup> Elphinstone, 370.

<sup>6</sup> Ibid, 400.

not to injure them at all, and if a merchant should die by the way, not to stretch out the hand of oppression and violence on his goods as if they were unowned," and he secured the country from outlaws by enforcing village responsibility, and making the village headmen, *mukaddams*, answerable for all thefts and robberies that were committed within their jurisdiction. The *mukaddam* must find the offender or compensate the loss. The system is said to have worked well, and led to the disappearance of theft and robbery from the kingdom, so that travelling was safe, and "such a shadow spread over the world that a decrepit person feared not a Rustam". The efficiency of Sher Shah's police system is also attested by Nizamuddin, who says "Such was the state of safety of highways that if any one carried a purse full of gold (pieces) and slept in the desert (*i.e.*, deserted places) for nights, there was no need for keeping watch".

The roads were also fairly secure during the reign of Akbar, who "encouraged trade by an exemption from duties through the interior provinces, and by the invincible protection given to merchants of all nations". Reasonable security was also maintained by the other Mogul emperors, who were "invariably the protectors of the merchants," so that through the "uncommon abilities of most of the princes," Hindustan became "the most flourishing empire in the world during two complete centuries". In the 27th year of the reign of Akbar (1581 A.D.), a general census was taken of the whole empire with the object, among other things, of promoting internal security. One of its important recommendations, in the words of Abul Faiz, runs as follows — The officers were not to allow any one to reside who was not

*To the Government of India, 1581 AD.* — The amount of stolen property was very easily represented in the following manner:

*Census Day Letter (1581 AD), 12-13*

\* *Tabakat-i-Akbari* (ed. pp. 222-3) quoted in *S. C. D.*

\* Dow, *Hist. of Hindostan* (ed. 1870) Vol. 2, p. 106.

Elliott, V. 1, 188-171

engaged in some business or occupation, and they were to inquire into the arrival and departure of clever men, and ascertain whether their designs were good or evil, so that in a short time the true characters of the outwardly respectable and inwardly malicious might be brought to the test. This regulation was the means of establishing tranquility, and of providing security for the broad expanse of Hindustan."<sup>1</sup>

The maintenance of law and order rested in the town with the *Kotwal* and his police force, and in the country, with the *Faujdar*, the *mukaddam*, and the village watchmen or *chaukidars*. Throughout the Mogul period, the *Kotwal*, the *Faujdar*, and the village headmen appear to have been held responsible for any loss from theft or robbery in the town and the country.

Elaborate regulations were laid down by Akbar's Government for the guidance of the *Kotwal*, whose police-duties with regard to the prevention and detection of crime may be best described in the words of Abul Fazl. The *Kotwal* "should be vigorous, experienced, active, deliberate, patient, astute, and humane. Through his watchfulness and night patrolling the citizens should enjoy the repose of security, and the evil-disposed lie in the slough of non-existence. He should keep a register of houses and frequented roads and engage the citizens in a pledge of reciprocal assistance, and bind them to a common participation of weal and woe. He should form a quarter by the union of a certain number of habitations, and name one of his intelligent subordinates, for its superintendence, and receive a daily report under his seal of those who enter or leave it and of whatever events therein occur. And he should appoint as a spy one among the obscure residents with whom the other should have no acquaintance, and keeping their reports in writing employ a heedful scrutiny. He should establish a separate *sarai* and

cause unknown arrivals to alight therein, and by the aid of divers detectives take account of them. He should minutely observe the income and expenditure of the various classes of men, and by a refined address make his vigilance reflect honour on his administration. . . . He should see to the open thoroughfares of the streets, and erect barriers at the entrances and secure freedom from defilement. When night is a little advanced, he should prohibit people from entering or leaving the city. He should set the idle to some handicraft. He should remove former grievances and forbid any one from forcibly entering the house of another. He shall discover thieves and the goods they have stolen or be responsible for the loss."<sup>1</sup> Abul Fazl further observes that should there be no Kotwal, the Collector (of Revenue) must take the duties of that office upon himself.<sup>2</sup>

During the second half of the 17th century, Thévenot and Manucci also noticed that the Kotwal and the Faujdar were responsible for securing the town and the country, and, that in the event of theft and robbery, they were either to find the offender or constitute the loss. It is difficult to know how far these principles were carried into actual practice, and how far the officers evaded payment by connivance, which they could often do by throwing the burden of responsibility on the people. The system had however the effect of making the whole body of citizens wary and vigilant, and this led to a great decrease of crimes. Thévenot remarks that the Kotwal almost always evaded payment for compensation by artful means; and he records an interesting case, in which the Faujdar was obliged to compensate the loss of Rs. 15,000, suffered by one Mr. Beber, in the service of the French East India Company.<sup>3</sup>

Notwithstanding the best efforts of the Government, highway robberies were not uncommon in the land, specially

<sup>1</sup> *Abul Fazl*, Vol. II, pp. 413  
Dr. C. L. p. 20; *Manucci*, II, 461

<sup>2</sup> *Abul Fazl*, 17  
<sup>3</sup> *Thévenot*, pp. 2

in the out-of-the-way places. And merchants could hardly travel over distant parts without sufficient guards, and would scarcely undertake the risks of a long journey, except in company of a large caravan. The insecurity of the roads was specially great in the hilly and jungle tracts of Central India and Malwa, through which lay the main route of traffic to the western seaports. These forest tracts were the refuge of professional robbers, like the Bhils, the Gonds, the Moghees and others, who would, at every possible opportunity, set forth from their hiding places and steal away goods even from a large caravan. It is but rarely however that they had the hardihood and daring to openly attack a well-guarded caravan. Hawkins' (1608-11, demolition of the state of internal security in the country, that it is "full of outlaws and thieves, that almost a man cannot stir out of doors, throughout all his [Jahangir's] dominions, without great forces,") seems to be too severe in the light of what we know about it during the same period. Sir T. Roe (1615-19) and Terry (1615 A.D.) could hardly have travelled through Rajputana, probably the most perilous part of the country in those days, if the roads were so impossible to travel. The English ambassador, however, travelled from Surat by Burhanpur and Chitor to Ajmir, at a time of political turmoil, yet he met with little obstruction or alarm, except occasionally from the mountain tribes.<sup>1</sup> And this was equally true of Terry, who travelled "very safely" nearly four hundred miles from Surat to Mandu, with only a small company, and on his return journey, was attacked only once—and that was about midnight—near Baroda.<sup>2</sup> And Kunjars and Cattas were constantly passing and repassing through the same regions without, as it is apparent, of ever thinking of abandoning their hereditary profession.

<sup>1</sup> Hawkins, *Travels*, p. 434.

<sup>2</sup> Burch. Ad. 2, 1, 313. Terry, *A Voyage to the East Indies*, Report 1777, p. 196, 72.

<sup>2</sup> Roe, I, 86-106.

One of the ways of dealing with the robbers and suppressing brigandage during the Mogul period seems to have been the wholesale slaughter of the outlaws, and the erection of towers bedecked with their heads, as a terror to the race of miscreants and law-breakers. Roe remarks that at Ramsor, 20 miles south-east of Ajmir, "the King had left the bodies of 100 naked men slain in the fields for robbery" "About fifteen years later in 1631, Peter Mundy found at Agra several "minaries" (minars) or little turrets, with the heads of many thieves, that were lately taken and some of whom were roasted alive" "Their bodies were hung up by the heels in a grove of mango trees" About the town, many of their bodies were also placed on stakes" The next year, Mundy met with more than 200 minaries from Bakewar to Chaparghat, a distance of from 50 to 60 miles, on the Ganges valley "The way was so pestered with rebels and thieves, that there was no passing, so that the King sent Abdulla Khan, with 12,000 horse and 20,000 foot to suppress them, who, destroyed all their towns, took all their goods, etc" This was evidently an expedition against certain tribes which had recently broken out into open rebellion In 1665, Tavernier noticed towers of heads near Kalabagh in Rajputana As it appears from Tavernier's remarks, the Hindu Prince of Kalabagh and his subjects were thus punished by Aurangzeb for their undue and forcible exactions from the merchants that passed on the way"

\* Page, 11, 2001

Mundy, II, 72-73. See illustration No. 6 and the text of the article.

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in the out-of-the-way places. And merchants could hardly travel over distant parts without sufficient guards, and would scarcely undertake the risks of a long journey, except in company of a large caravan. The insecurity of the roads was specially great in the hilly and jungle tracts of Central India and Malwa, through which lay the main route of traffic to the western seaports. These forest tracts were the refuge of professional robbers, like the Bhils, the Gonds, the Moghees and others, who would, at every possible opportunity, set forth from their hiding places and steal away goods even from a large caravan. It is but rarely however that they had the hardihood and daring to openly attack a well-guarded caravan. Hawkins' (1608-11) denunciation of the state of internal security in the country, that it is "full of outlaws and thieves, that almost a man cannot stir out of doors, throughout all his [Jahangir's] dominions, without great forces,"<sup>1</sup> seems to be too severe in the light of what we know about it during the same period. Sir T. Roe (1615-19) and Terry (1615 A.D.) could hardly have travelled through Rajputana, probably the most perilous part of the country in those days, if the roads were so impassable to traffic. The English ambassador, however, travelled from Surat by Burhanpur and Chitor to Ajmir, at a time of political turmoil, yet he met with little obstruction or alarm, except occasionally from the mountain tribes.<sup>2</sup> And this was equally true of Terry, who travelled 'very safely' nearly four hundred miles from Surat to Mandu, with only a small company, and on his return journey, was attacked only once—and that was about midnight—near Baroda.<sup>3</sup> And Banjars and Casillas were constantly passing and repassing through the same regions without, as it is apparent, of ever thinking of abandoning their hereditary profession.

<sup>1</sup> Hawkins, *Voyage*, p. 424.

<sup>2</sup> Smith, *Asiatic*, p. 413. Terry, *Travels*, *Recd. from the Library of 1777*, pp. 100-72.

<sup>3</sup> Roe, I, 86-102.

One of the ways of dealing with the robbers and suppressing brigandage during the Mogul period seems to have been the wholesale slaughter of the outlaws, and the erection of towers bedecked with their heads as a terror to the race of miscreants and law breakers. Roe remarks that at Raisor, 20 miles south-east of Ajmir, "the King had left the bodies of 100 naked men slain in the fields for robbery."<sup>1</sup> About fifteen years later in 1631, Peter Mundy found at Agra several "*munaries*" [minars, or little turrets, with the heads of many thieves, that were lately taken and some of whom were roasted alive]. "Their bodies were hung up by the heels in a grove of mango trees." About the town, many of their bodies were also placed on stakes.<sup>2</sup> The next year, Mundy met with more than 200 *munaries* from Bakewar to Chaparghat, a distance of from 50 to 60 miles, on the Ganges valley. "The way was so pestered with rebels and thieves, that there was no passing, so that the King sent Abdulla Khan, with 12,000 horse and 20,000 foot to suppress them, who destroyed all their towns, took all their goods, etc."<sup>3</sup> This was evidently an expedition against certain tracts which had recently broken out into open rebellion. In 1665, Tavernier noticed towers of heads near Kalabagh in Rajputana. As it appears from Tavernier's remarks, the Hindu Prince of Kalabagh and his subjects were thus punished by Aurangzeb for their undue and forcible exactions from the merchants that passed on the way.<sup>4</sup>

<sup>1</sup> Roe, II, 860.

<sup>2</sup> Mundy, II, 72-73. See illustration No. 8. Survey of India  
of India (XX, 149-160) on the "Chunar" or the "Pillar-stick." The barbarous and inhuman system of punishment was not peculiar to India. It existed in Europe even as late as the 15th century. While describing the state of manners of travel in England during the middle of the 15th century, John Lydgate writes: "A very enormous right then was a gibbet erected by the roadside in the shire, with a malefactor hanging from it publicly and daily under the sun, to give warning to the neighbourhood of London. Every man, as he passeth by, shal see him."

<sup>3</sup> Mundy, II, 86.

<sup>4</sup> Tavernier, I, 28.

In Malwa and Gujarat the travellers had often a special class of guards for their safe conduct, the "Tcherons" or "Chāruni," the well-known bards and priests of Rajputana. Regarding these "tcherons," observes Thevenot (1660 A.D.) "If one have any of these with him he thinks himself safe, because the man acquaints the robbers they meet, that the traveller is under his guard— they compound with the robbers for a certain sum which the traveller gives them. The Banians make use of these people."<sup>1</sup> As late as 1825, Heber observes "A few years back it was usual for merchants and travellers going through Malwa and Gujarat to hire a Churun to protect them, and the sanctity of his name was generally sufficient, etc."<sup>2</sup>

Since the closing years of the 17th century, the forces of disruption of the Mogul Empire were at work and the country gradually became divided into numerous small independent principalities and warring camps. During this period of disturbance and turmoil, when Northern India was in a veritable state of chaos and anarchy, there seems to have disappeared what law and order there was in the land during nearly the first two centuries of Mogul rule. The times were now propitious for the plundering raids and depredations of free-booting classes, like the Thugs and the Pindaries, and nationalities like the Jats and the Mahrattas, which probably hoped to consolidate their power and found a kingdom or an empire with the rich spoils of plunder. Even during the lifetime of Aurangzeb, the Jats, under their Chieftain, Churaman, carried their plundering raids in the neighbourhood of Agta and Fathepur Sikri, and the Mahrattas as far as Ujjain and Sironj. And by the middle of the 18th century, the Mahrattas carried their depredations as far as Bengal, and became a terror to her peaceful citizens. Besides

<sup>1</sup> Thevenot, pp. 18-19.

<sup>2</sup> Heber, p. 474. See also Max. in C. of I., Vol. II, 1825, p. 11.

their periodical invasions, the Mahrattas also levied heavy tolls on passing traffic as the price of security from plunder.<sup>1</sup> Security also disappeared during this later period from the Indus delta, where robberies were committed, notwithstanding powerful guards, between Tatta and Larribundar. In this connection, Alexander Hamilton records a case of organised robbery, which is as follows. "In anno 1699, a pretty rich cassilla was robbed by a band of four and five thousand villains the guard consisting of 250 horse were entirely cut off, and above 500 of the merchants and carriers, which struck a terror on all that had commerce at Tatta".

It is interesting to find however that peace and security still continued to reign in parts where the purity and equity of the ancient political system had prevailed. One of such places was Bishnupur, now a sub-division of the Bankura District in Bengal. In the latter part of the 18th century, Abbe Raynal, the French author of the *History of Settlements and Trade in the East and West Indies*, wrote the following appreciative words regarding Bishnupur. "This fortunate spot, which extends about a hundred and sixty miles, is called Bissenpour. It has been governed, from time immemorial, by a Brahmin family of the tribe of the Rajahputs. Here the purity and equity of the ancient political system of the Indian is found unadulterated. This singular government, the honest and most striking monument in the world, has, till now, been beheld with too much indifference. . . . the government of Bissenpour, the offspring of a just attention to order . . . . Liberty and property are sacred in Bissenpour. Robbery, either public or private, is never heard of. As soon as any stranger enters the territory he engages the attention of the laws, which provide for his security. He is furnished with guides at free cost, who conduct him from place to place.

<sup>1</sup> Elliot, VII, 348, 374 &c, 541-2. See also pp. 310-12

<sup>2</sup> A New Account of the East Indies, 1788, 17, 1. Part I, p. 3

and are answerable for his person and effects. They are so far from being guilty of an injury to each other, that whoever finds a purse, or other thing of value, hangs it upon the first tree he meets with, and informs the nearest guard, who gives notice of it to the public by beat of drum. These maxims of probity are so generally received that they direct even the operations of government." Mr. Holwell, the Governor of Calcutta, speaks in the same way of Bishnupur in his *Interesting Historical Events*, which was published in 1766. "But, in truth, it would be almost cruelty to molest those happy people for in this district, are the only vestiges of the beauty, purity, piety, regularity, equity and strictness of the ancient Indostan government. Here the property, as well as the liberty of the people, are inviolate. Here, no robberies are heard of, either private or public. The traveller, either with or without merchandize, on his entering this district, becomes the immediate care of the government, which allots him guards without any expense, to conduct him from stage to stage, and these are accountable for the safety and accommodation of his person and effects."

The following remarks of the *Imperial Gazetteer* with regard to the safety of inland travel and transport in mediæval India, until probably to the closing decades of the reign of Emperor Aurangzeb, may form a fitting close to this section. The *Gazetteer* says: "The necessity of maintaining a right-of-way and providing security to life and property on frequented routes was never lost sight of, and the Mughal emperors, in particular, concerned themselves to mark out and guard the routes most used by the caravans which carried traders and goods from one end of India to another. The roads were generally guarded at intervals by posts (*chaunkis*), between the *chaunkis* the tracks were marked out by stones, pillars, or

Albre Haenel. *History of the Commerce and Trade in the East and West Indies*. Translated by Johnston (Edinburgh, 1770). Vol. I, pp. 220-22.

\* Holwell, *Interesting Historical Events*, p. 196.

avenues of trees. The zamindars through whose lands the roads ran provided watchmen (*chaukidars*) and were allowed to levy a small toll on the passing traffic. The *amalgazars*, or magistrates, were responsible for all goods stolen within their jurisdiction. The security thus given was probably fairly efficient."<sup>1</sup>

### *Conclusion.*

Having regard to the almost self-sufficing character of the different parts of the country, the small development of territorial division of labour and the little interdependence between one part and another, and the comparative absence of traffic in such bulky articles as coal and iron, hide and jute, etc., the means of communication and the facilities for transport in mediæval India may thus be considered to have been fairly adequate to meet the needs of the times. India's commercial prosperity in the past rested, in no small measure, on the facilities of internal transport, and the maintenance of law, order and good government throughout the land. As we have seen above, the mediæval Indian rulers were not, as is often alleged, unmindful of the general interests of their respective territories, and the common welfare of their people, and they were not a little instrumental in bringing about this happy consummation.

<sup>1</sup> *Imperial Gazetteer*, Vol. III, p. 600.

## CHAPTER III

### The Post

The Post Office, as we understand the term at the present day, is of comparatively recent growth. In its beginnings, it was a mere state institution, and owed its origin to the necessity of maintaining communication between the different parts of a kingdom, and keep them in close touch with one another for administrative purposes. Prior to the year 1837, India possessed no general postal system, and the work of maintaining communication between the different parts was in the hands of special messengers, private or official. Regarding early posts in India, writes the *Imperial Gazetteer*, "The conveyance of letters by such couriers (kasid, patamar, or bakhra) was extensively developed under native rule from early times. And it is interesting to notice that the vernacular words (dak in Northern India, and tappal in the South and West) are derived like the English word, from the stages at which relays of couriers, or other methods of conveyance, were stationed."<sup>1</sup>

The earliest recorded instance of the post in mediæval India seems to be the one organised by the Pathan ruler Alauddin Khilji, who came to the throne in 1296. According to the historian Ziauddin Barani, the emperor established horse and foot posts, whenever he sent an army on an expedition, to furnish him with military news.<sup>2</sup> The emperor is also said to have received daily reports of the prices of things and occurrences in the kingdom.<sup>3</sup> That the post was a well

<sup>1</sup> *Imperial Gazetteer*, Vol. III, p. 408.

<sup>2</sup> *Ziauddin Barani*, *Barani*, Vol. III, p. 288.

<sup>3</sup> *Perpetua Periodica*, p. 187. Prof. K. Chittenden, *Ghar Shikhi*, p. 246.

organised institution in India by the middle of the fourteenth century is sufficiently clear from the famous description of the system by the celebrated African traveller Ibn Batuta, who visited the land in 1311 A.D. during the reign of Muhammad Tughluq. The system is thus described :—“There are in Hindustan two kinds of couriers, horse and foot; those they generally term ‘El Wolak’ (*i.e.*, Quick, hastening). The horse-courier, which is part of the Sultan’s cavalry, is stationed at the distance of every four miles. As to the foot-couriers, there will be one at the distance of every mile occupying three (consecutive) stations, which they term ‘El Divah’ and making (in the whole) three miles. In the hand of each is a whip about two cubits long, and upon the head of this are small bells. He takes his despatches in the one hand, and the whip, which he constantly shakes, in the other. In this manner he proceeds to the nearest foot-courier; and, as he approaches, he shakes his whip. Upon this out comes another who takes the despatches, and so proceeds to the next. For this reason it is that the Sultan receives his despatches in so short a time.” A similar description of the post during the period is given by the historian Shahabuddin Abdul Abbas Ahmad, a contemporary of the African traveller.<sup>1</sup> The names of Secunder Lai (1488-1512) and Rihar (1526-30) are also mentioned by Muhammadan historians in connection with the post. Secunder is said to have “established small posts at every place.” “Whenever he sent his army in any direction, two *farmars* duly reached it—one in the early morning giving instruction at what place it should halt after the day’s march, and one at the time of afternoon prayer, or in the evening giving direction ‘Do this and that.’ This was never allowed to be disturbed. The horses of the *dak-chowki* were always

<sup>1</sup> Travels of I. A. Batuta. Lee’s translation, pp. 101-102.

Reed, Vol. 113, p. 551.

—*ibid.* Vol. 114, p. 42.

kept in readiness. Daily report of prices and occurrences in the parganas of his dominion reached him every day."<sup>1</sup> Emperor Babar is said to have ordered the measurement of the Agra-Kabul road, and the establishment of horse-posts all along the way. It is stated in the *Babar Memoirs* of that on the 17th of December, 1528, Chiqmaq Beg was ordered to measure the road between Agra and Kabul, and that he got out the same day to carry out the imperial instructions. The plan of work is thus described. "At every 9th Kuroh (cir 18 m), a tower was to be erected 12 quris 24 or 36 ft) high and having a char-dara (four-doored, open on all sides) on the top, at every 18th Kuroh (cir 36 m), 6 post-horses were to be kept fastened; and arrangement was to be made for the payment of post-masters and grooms, and for horse-corn."<sup>2</sup> It is not however clear from the *Memoirs* if the good intentions of the Emperor were actually realised.

The reign of Emperor Sher Shah (1540-45) might well be considered a landmark in the history of Muhammadan rule in India. It was during his reign that various improvements were made in the diverse affairs of political and economic life and new principles of administration and justice laid down. As we have seen before, Sher Shah not only constructed roads and garrisons, but established horse-posts throughout the empire, in order that every day news might be conveyed to him from the N lab and Agra, and the very extremities of the countries of Bengal. Altogether he is said to have built 1,700 *sarais* on the various roads. "In every *sarai* two horses were kept, that they might quickly carry news," so that there was an establishment of 3,400 horses in Hindusthan for the work of the Post.<sup>3</sup> Emperor Akbar (1556-1605) was probably the first to employ the camel post in India. The following

<sup>1</sup> *Itinerarium Persicum*, p. 171. *Qazviniga Ruz-nama*, p. 304.

<sup>2</sup> *Memoirs of Babar*, Section III, p. 620.

<sup>3</sup> *Tarikh-i-Sher Shahi*, Khilot, Vol. IV, p. 418.

extract from the *Amar Akhbari* will make it abundantly clear that the post was a well established institution in India during the sixteenth century. Says the *Ain*: "Raihars is the name given to a class of Hindus who are acquainted with the habits of the camel. They teach the country-bred *lok* camel so to step as to pass over great distances in a short time. Although from the capital to the frontiers of the empire, into every direction, relay horses are stationed, and swift runners have been posted at the distance of every four *kas*, a few of these camel riders are kept at the palace in readiness."<sup>1</sup>

Of the European travellers who visited India during the seventeenth century, Alexander Hamilton is one who has the most graphic description of the Mogul Post which he thus describes. "The post in the Mogul's dominions goes very swift, for at every caravanserai, which are built on the high-roads, about ten miles distant from one another, men, very swift of foot, are kept ready. The letters are enclosed in a gilded box, which he that carries holds over his head when he comes near the serai, and giving notice of his arrival, another takes it, and runs to the next, and so on, night and day, at five or six miles in an hour, till it is carried where directed to, so that in eight days, advices are brought from the farthest parts of that large empire, to court."<sup>2</sup>

Under the Moguls, there were various news-reporters in the different parts of the empire known as (1) the *raque-nawis*, or the *waqai-nigar*, (2) the *sarai-nigar*, (3) the *khush-nawis*, and (4) the *harkaro*. These regularly furnished news to the central Government, and acted under the orders of an officer of the Court named the *Daiwah of Dab Chukh*, i.e., Superintendent of Posts and Intelligence, who received the letters and despatches and handed them unopened to the *wazir* for

<sup>1</sup> *Ain* (Blochmann), I, 167-48.

<sup>2</sup> Pinkerton, *Travels*, Vol VIII, p. 220.

submission to the Emperor. From a Persian manuscript, 'written not later than the early 15th century,' we learn that *magan* was to be sent once a week, *satiyah* twice, and the *akhbdr* of *barkara's* once [- a month] and the despatches in cylinders (*nals*) from the *makar* and the *dina* twice every month, in addition to urgent matters (which were to be reported immediately).'<sup>1</sup> The number of despatches sent from the provincial centres to the capital might have changed from time to time, but their frequency clearly indicates the necessity of the maintenance of a regular system of post throughout the empire; and that the system was well maintained at least to the middle of the 18th century seems to be clear from the *Mirat-i-Ahval* or the History of Gujerat written in 1718 by Muhammad Ali Khan, the diwan of the province. According to Ali Khan, the provincial news-writer had a large staff of news-writers called *wakilah-nigar* who worked in the various district and city courts and offices. "He received his news-reports every evening and embodied them in a letter which was sent to court by camel post. A second staff of news-writers called *shwadah-nigar* reported rumours. A third set were the *barkars* on the viceroy's staff. Postal chaukis or stations extended from Ahmedabad to the Ajmir frontier, each with men and horses ready to carry the imperial post which reached Shah-Jehanabad or Delhi in seven days. A line of posts also ran South through Broach to the Dakhan."<sup>2</sup>

In Mysore, we are told by Colonel Wilks, a regular post was established for the first time throughout his dominions by Raja Chik Deo, who ascended the throne in 1672. The Post Office in Mysore was not merely a passive instrument for conveying intelligence, but an active one for obtaining it. The post-masters and other inferior officers of the department,

<sup>1</sup> Jadunath Sarkar, *Mughal Administration*, pp. 97, 101.

<sup>2</sup> *Bombay Gazetteer*, Vol. I, Part 3, p. 214.

besides performing their ordinary duties, also acted as confidential agents of the government, and furnished it with regular reports of the secret transactions of the districts in which they were stationed. The system was more fully developed under Hyder Ali.

The post in medieval India was maintained for official purposes, and was not available for private communications. Private communications were carried on by special messengers, who were available in the important centres of trade. It is probable, however, that government couriers delivered private letters for a consideration. The private messengers were variously known as the *kazi*, the *patamar*, or the *harkara* in the different parts of the country. The *bazar kazi*s in the time of Peter Mundy (1628-34) carried letters from Patna to Agra in 11 to 15 days.<sup>1</sup> 'Nimble' *kazi*s could travel between Delhi and Surat in 15 to 20 days.<sup>2</sup> It ordinarily took 20 days for the *patamar* to travel between Goa and Masulipatam.<sup>3</sup> According to Dr. Fryer, the *patamars* were 'the only foot-posts' in the Deccan.<sup>4</sup>

The origin of the public post in India may be dated as far back as 1712, when for the first time private letters were allowed to be despatched by the Company's peons (*kazi*s or *patamars*) on payment of postage. When the Europeans first came to India, they employed these messengers for the conveyance of their letters and despatches. As this took an inordinately long time, and was besides very expensive, in 1688, the English East India Company directed its officers at Madras and Bombay to establish Post Offices for the convenience of merchants, and for augmenting the Company's revenues. The instructions of the Company to Bombay ran

<sup>1</sup> Works of Sir Thomas Herbert, Vol. I, Part II, p. 59.

<sup>2</sup> Travels of Peter Mundy, Vol. II, p. 308.

<sup>3</sup> Wilson, Early Travels in Bengal, Vol. II, Part II, p. 60.

<sup>4</sup> Letters of Dr. John Fryer (Calcutta Record Series), Vol. I, p. 198.

Fryer, East India, 1617-1640, Vol. I, p. 57.

as follow:—"We likewise require you to erect a Post Office for all letters to be brought to and delivered at, setting such rates upon each single letter, and so proportionately upon double or treble letters, as may in a few years bring in insensibly a vast review to the Company, and a much greater convenience to merchants and trade in general than ever they yet had or understood. For which purpose you [must] order fitting stages and passage boats to go off and return on certain days, and proper stages by land to Surat and other places to convey letters with great security and speed."\* Similar instructions were sent to Madras. It appears that in 1712 the Madras officer established post stations at convenient stages, and so succeeded in establishing a useful correspondence between several places. Messages could now be sent from Madras to Bengal in about 30 days, whereas formerly the time taken was from two to three months. The rates of postage originally fixed are not given, but those for 1720 were

From Fort St. George to	Vizagapatam	4	<i>Forams</i>
" "	Bengal	6	"
" "	Bombay or Surat	9	" <sup>†</sup>

Little further is known regarding the development of the Company's Post till we come to the period of Lord Clive, when for the first time, in 1766, a regular postal system appears to have been introduced. The order on the subject is:—"For the better regulation of the Danks. Ordered that in future all letters be despatched from the Government House; the post-master or his assistant attending every night to sort and see them off, that the letters to the different Inland settlements be made up in separate bags sealed with the

\* *Registers of Old Madras*, II, 664.

† *Registers of Old Madras*, II, 10. A thousand 12 annas.

Company's seal ; that no one may open the packets except the Chiefs at different places who are to open only their respective packets ; and ordered that they be directed to observe the same rule with respect to the letters sent down to Calcutta " . Various other regulations were laid down for the greater security and speedier despatch of letters and packets. Further improvements in the post-office were made under the administration of Warren Hastings. In 1774, a Post-master-General was appointed at Calcutta, and the lowest rate of letter postage was made 2 annas per 100 miles, copper tickets of the value of two annas, to be used solely for postal purposes, being specially struck for public convenience. The postal regulations were revised by Warren Hastings in 1781; and further revisions were made from time to time until 1837, when a public post was established, and Government assumed the exclusive right to convey letters for hire in the territories of the East India Company<sup>1</sup>.

Several years prior to 1775, a bi-weekly post was established between Madras and Bengal. There was yet no regular postal communication either between Madras and Bombay or between Bombay and Calcutta. On the representation of the European merchants, a regular fortnightly post seems to have been first introduced between Madras and Bombay in 1748. The route lay by way of Hyderabad and Poona, and it took about 25 days to make the journey. In 1790, the service was made weekly, and the route was changed. Letters were now conveyed from Bombay to Masulipatam, and thence to Calcutta and Madras. By this change, much time was saved, and letters could now be

<sup>1</sup> Hamilton, *An Outline of Postal History and Practice*, p. 120.

\* Hamilton, pp. 192-202; Clarke, *The Post Office of India*, pp. 1-17, 191-94. The ancient system of private dawks however continues to exist to the present day. These dawks are represented to travel at a much slower pace than that at which the Government post runs, and their time of arrival is often uncertain. What is so much desired by all, quick intelligence and certainty as has been said in the Parliamentary Papers on Postal Communication etc (India), 1912, p. 3.

carried from Bombay to Calcutta in 26 days, to Madras in 17 days, and from Madras to Calcutta in 19 days.<sup>1</sup> The postmen always travelled on foot. Their stages were commonly from seven to eight miles, and their rate of travelling, about 70 miles in the 24 hours.<sup>2</sup>

The rates of postage varied according to weight and distance, and they appear to have been changed several times in the course of a few years. In 1788, the charges for letters between Madras and Bombay were —

<b>For a single letter</b>	<b>Rs.</b>	<b>2</b>
“ double ”	“ ”	4
“ treble ”	“ ”	6 ;

and the charge on packets was at the rate of Rs. 4 per ounce. After November, 1789, the postage for a single letter 2½ rupees' weight and under was —

<b>Between Bombay and Poona</b>	<b>52</b>	<b>Kms.</b>	<b>2 Anna</b>
“ ” “ Hydersbad	222	”	8 ”
“ ” “ Masulipatam	831	”	12 ”

<b>Between Masulipatam and Madras</b>	<b>323 Miles</b>	<b>3 Fanams 1 Anna</b>
“ ” “ Ganjam	428	” 4 ” 8 ”
“ ” “ Ganjam and Calcutta	305	” 5 ”

Letters between 2½ and 3½ rupees' weight were to pay double rates; between 3½ and 4½ rupees' weight, treble rates;

<sup>1</sup> Postage of Old Madras II. 79, 448 &c.; *Selections from the Letters, Dispatches, and other State Papers preserved in the Bombay Secretariate, British Service, Vol. II (ed. Forrest), p. 847*.

<sup>2</sup> *Report of the Jellalpur Committee*, p. 257. From Calcutta to Patna the distance was 309 miles, and there were 49 stages and 166 bakhrae. From Calcutta to Dacca the distance was 179 miles, and there were 41 stages and 68 bakhrae — *ibid.* p. 103.

between 4½ and 5½ rupees weight, quadruple rates, and so on.<sup>1</sup> In 1795, the rates were :—

Calcutta to		2½ Tolas and under
Barrackpore		Rs. 1
Rajmahal		0 3
Patna		0 5
Benares		0 7
Dacca		0 2
Chittagong		0 6
Bombay		1 9
Madras		1 24

Letters between 2½ and 3½ tolas were to pay double rates; between 3½ and 4½ tolas, treble rates, and so on.<sup>2</sup> The rates were further revised in 1798. Letters under one rupee in weight were styled single letters, between 1 and 1½ rupees, double letters, between 1½ and 2 rupees, treble letters, and so on. The postage prescribed for single letters was based on a mileage rate of 1½ annams for every hundred miles.<sup>3</sup> It was not till 1851 that rates were fixed for the conveyance of letters irrespective of distance.

The system of franking public letters, says Carey in *The Good Old Days of Hon'ble John Company*,<sup>4</sup> came generally into use in July, 1798. Before this, only a few officers had the privilege of sending their letters on the public service free of postage.

Arrangements for the conveyance of heavy packages and parcels also existed in India before the close of the 18th century. These were carried in *baughis* or *hangaris* suspended

<sup>1</sup> *Postage Rates in the East*, p. 117.

2½ milles.

<sup>2</sup> *Other East India Co. Days*, Vol. I, p. 484.

grains.

<sup>3</sup> *Postage of Old Madras*, III, 60.

<sup>4</sup> Vol. I, p. 493.

across men's shoulders. The system was accordingly known as the *Banghy Dak*. Regarding the *banghy dak*, written Hamilton in his *Outline of Postal History and Practice*<sup>1</sup>: "India had a parcel post a century at least before the introduction of that loudly heralded improvement at home. The banghies travelled somewhat slower than the mails; but a watch might be sent from Allahabad to Calcutta for repair and returned in less than a month."

<sup>1</sup> p. 124

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